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PERSONAL.

Mr. C. R. Felton has been appointed City Engineer of Brockton, Mass., to succeed Mr. B. R. Chapman.

Mr. Ernest H. Brownell, Assoc. M. Am. Soc. C. E., has opened an office in the Brownell Building, Providence, R. I.

Mr. Charles H. Gannett, civil engineer, of Boston, Mass., was married Jan. 4, to Miss Mary Lyman, of Arlington, Mass.

Major Charles H. Hudson, Chief Engineer of the Southern Ry., with headquarters in Washington, D. C., has resigned.

Mr. Jeremiah J. Desmond has been appointed a member of the water board of Lawrence, Mass., to succeed Mr. Junkins.

Prof. Floyd Davis, of Des Moines, Ia., has been engaged to examine the water furnished by the Oshkosh Water-Works Co. to the city of Oshkosh, Ia.

Mr. Herbert J. Bowman, civil engineer, at one time Superintendent of the water-works at Berlin, Ont., has been elected Water Commissioner of that town.

Messrs. Burns & McDonnell, civil, hydraulic and structural engineers, have removed their offices from 306 New England Bldg., Kansas City, Mo., to 406 Postal Telegraph Bldg., in the same city.

Mr. Lewis E. Fischer, civil engineer, of St. Louis, Mo., has been appointed City Engineer of Paris, Ill. He is a graduate of the Engineering Department of the University of Illinois, Champaign, Ill.

Mr. John W. Gates, President of the Illinois Steel Co., Chicago, has resigned to accept a similar position with the American Steel & Wire Co., Chicago. Mr. E. J. Buffington has been elected to succeed him.

Messrs. B. C. Ball and W. H. Corbett, civil engineers, have formed a partnership under the firm name of Ball & Corbett, consulting and contracting engineers, with offices at 39 Cortlandt St., New York.

Mr. Manuel J. Martinez, M. Am. Soc. M. E., of Yonkers, N. Y., has been appointed Resident Agent at Havana, Cuba, for the Aultman & Taylor Machinery Co., Mansfield, O., manufacturers of the Cahall water tube boiler.

Mr. Walter S. Wyman, electrical engineer, who has been in the employ of the Waterville Water Co. for several years, has been appointed General Manager of the Waterville & Fairfield St. Ry. & Light Co., Waterville, Me.

Mr. John K. Lencke, connected with the Q & C Co., Chicago, Ill., sailed on the "Majestic," Jan. 11, for a trip through England, Germany, Russia, Sweden and Denmark in connection with devices manufactured by the company.

Mr. Henry G. Issertel, lately Manager of the Boston office of the Walker Co., Cleveland, O., has accepted the position of Manager for the New England states of the Anchor Electric Co., Boston, Mass., with headquarters at 1001 Havemeyer Bldg., New York city.

Mr. F. L. Sheppard, General Superintendent of the Pennsylvania R. R., with headquarters at Altoona, Pa., has been transferred in the same capacity to the United Railroads of New Jersey Division with headquarters at Jersey City, N. J., to succeed Mr. F. Wolcott Jackson, whose promotion was noted in our last issue.

Mr. W. J. Clark, formerly of the Railway Department of the General Electric Co., Schenectady, N. Y., has accepted the position of General Manager of the Foreign Department, with headquarters in New York city, succeeding Mr. D. Mazenet, who has accepted the position of Managing Director of the Mexican General Electric Co., with offices in the City of Mexico.

Mr. Benjamin Reece, M. Am. Soc. C. E., has resigned his position as engineer of the Continuous Rail Joint Co., of America, Newark, N. J., and has associated himself with the Diamond State Iron Co., Wilmington, Del. His office will be in Philadelphia, Pa., and he will have charge of the company's track material specialties, including spikes, tie-plates and the Churchill rail joint.

Mr. Albert A. Cary, M. Am. Soc. M. E., has opened an office at 95 Liberty St., New York city, for practice as a Consulting Mechanical Engineer, making a specialty of steam engineering work and expert work in connection with legal proceedings. Mr. Cary was for several years engineering manager of the Abendroth & Root Mfg. Co., makers of the Root boiler, and more recently has been in charge of the New York office of the Monarch Mfg. Co., of Waterbury, Conn., makers of the Monarch engine stop.

Brig.-Gen. Henry L. Abbott, Corps of Engineers, U. S. Army, arrived in New York, Jan. 9, from France, on the steamer "La Champagne." He is a member of the International Technical Commission, composed of engineers representing the United States, Great Britain, France, Russia, Germany and Colombia, which recently reviewed and reported upon the plans of the New Panama Canal Co. He will proceed to Washington, D. C.

The Canadian Government Commission, appointed to examine the docks, harbor improvements and terminal facilities of the principal harbors of the United States, visited New York Harbor, Jan. 9. Among the engineers on the commission are: Mr. John Kennedy, M. Am. Soc. C. E., Chief Engineer to the Harbor Commissioners, Montreal, Que., who is the Engineer of the Commission; Mr. P. W. St. George, City Engineer of Montreal, and Mr. Eugene D. Lafleur, Acting Chief Engineer. Mr. Robert McKay is the President of the Commission and Mr. David Seath is its Secretary.

Mr. Ira Grant Hedrick, Assoc. M. Am. Soc. C. E., who has been for some years Principal Assistant Engineer to Mr. J. A. L. Waddell, M. Am. Soc. C. E., consulting engineer, Kansas City, Mo., has been taken into partnership by Mr. Waddell under the firm name of Waddell & Hedrick, consulting engineers. Mr. Hedrick has been in charge of Mr. Waddell's Kansas City office and has held a very responsible position in the business. The new firm will retain Mr. Waddell's offices in the Gibraltar Building, Kansas City, and will make a specialty of bridges, elevated railways and structural steel-work in general. Mr. Andrew E. Foye is the New York representative of the firm, with offices in the Bowling Green Building, 11 Broadway.

OBITUARY.

Mr. Robert Fenton, civil engineer, of Willimantic, Conn., died Jan. 1, aged 55.

Mr. Horace Clark, contractor, of Poughkeepsie, N. Y., died Dec. 29, aged 66.

Mr. Arthur Stanley Cochran, architect, of Philadelphia, Pa., died Jan. 1, aged 34.

Mr. Daniel Fehl, Superintendent of Highways of McKeesport, Pa., died Jan. 6, aged 67.

Mr. W. Dewees Wood, the well-known sheet-iron manufacturer, of Pittsburg, Pa., died Jan. 2, aged 72.

Mr. Draper Smith, President of the Plymouth Light, Heat & Power Co., and of the Plymouth Water Co., of Plymouth, Pa., died Jan. 5, aged 83.

Mr. George H. Frey, civil engineer, of New York city, died in the Presbyterian Hospital in that city, Jan. 3, aged 35. He was for many years engaged in the practice of his profession in South America and South Africa.

Col. Gustavus S. Innis, civil engineer and surveyor, of Columbus, O., died Jan. 2. He was born in Franklinton, O., Feb. 4, 1819, and received his education in the public schools and the Central High School. He became a surveyor, and at the outbreak of the Civil War enlisted in the Union Army, where he attained the rank of Colonel. He was a member of the Civil Engineers' Association of Columbus.

Mr. Joseph Pearson Gill, civil engineer, of New York city, died at his home, Jan. 9, aged 80. He was born near Trenton, N. J., and entered the U. S. Navy, serving through the Mexican War. At the close of the war he resigned from the navy and began the study of engineering in Philadelphia. Among important works built by him during his professional career were the railway from Trenton to Belvidere and the gas works at Lewiston, Me., Jersey City, N. J., and Petersburg, Va. He lived in Lewiston, Me., for 20 years and afterwards in Newark, N. J., until several years ago when he moved to New York.

Dr. Ezra Otis Kendall, Emeritus Professor of Mathematics and Astronomy and Honorary Dean of the Faculty, of the University of Pennsylvania, died in Philadelphia, Pa., Jan. 5. He was born in Wilmington, Mass., May 15, 1816, and came to Philadelphia in 1835. After a course of instruction under his half-brother, the Mathematician, Sears C. Walker, he was appointed Professor of Theoretical Astronomy and Mathematics in the Central High School of that city and filled this position for 20 years. In 1855 he was appointed Professor of Mathematics and Astronomy in the University of Pennsylvania and held that chair until 1890, when he was made Professor Emeritus. He made a series of systematic observations for longitude for the U. S. Coast Survey and contributed largely to the U. S. Ephemeris and Nautical Almanac. He also edited several scientific works, and for 23 years was Secretary of the American Philosophical Society, having become a member of that society in 1842.

Mr. William H. Schultz, at one time Master Mechanic of the old Philadelphia, Germantown & Morristown R. R., died in Wilmington, Del., Jan. 3. He was born in Westphalia, Germany, Feb. 19, 1805, and learned the machinist's trade. In 1832 he came to this country and settled in Baltimore, Md. About two years later he became Master Mechanic of the Philadelphia, Germantown & Norristown R. R., having charge of the locomotive shops in Philadelphia. In 1839 he entered the employ of the Norris Locomotive Works, Philadelphia, and in 1840 was sent to Berlin to develop and operate a short railway from Potsdam to Berlin for the king. A year later he received an offer from the Emperor of Russia to take charge of the only railway in the empire and remained there also a year. In 1852 he returned to Philadelphia and became Master Mechanic and General Superintendent of the Camden & Atlantic Ry., which position he held for many years. He was the inventor of a number of improvements in locomotive details.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

NEW YORK ELECTRICAL SOCIETY.
Jan. 12. "Latest Progress in Storage Battery Installations," Joseph Appleton. Secy., Geo. H. Guy, 120 Liberty St., New York city.

BROOKLYN ENGINEERS' CLUB.
Jan. 12. "Notes on Street Paving Materials and Their Uses," Nelson P. Lewis. Secy., A. J. Provost, Jr., 191 Montague St., Brooklyn, N. Y.

CENTRAL RAILWAY CLUB.
Jan. 13. Secy., H. D. Vought, 114 Fifth Ave., New York city.

WISCONSIN STATE CHEMICAL ASSOCIATION.
Jan. 13. Secy., I. Ladoff, 154 Knapp St., Milwaukee, Wis.

ST. LOUIS RAILWAY CLUB.
Jan. 13. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

SCRANTON ENGINEERS' CLUB.
Jan. 14. Annual meeting. Secy., F. E. Pratt, 730 Madison Ave., Scranton, Pa.

MONTANA SOCIETY OF ENGINEERS.
Jan. 14. Annual meeting, Helena, Mont. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.

TECHNICAL SOCIETY OF NEW YORK.
Jan. 14. "The Latest Changes in International Patent Law," Paul Goepel, Secy., F. H. Gottlieb, 192 Third Ave., New York city.

AMERICAN INVENTORS' AND MANUFACTURERS' ASSOCIATION.
Jan. 15. Annual meeting, Washington, D.C. Secy., Arthur Steuart, Washington Loan & Trust Bldg., Washington, D. C.

ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
Jan. 16. Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.

TECHNICAL CLUB OF OMAHA.
Jan. 16. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
Jan. 16. Secy., H. E. Smith, 1620 S. E. 14th St., Minneapolis, Minn.

FRANKLIN INSTITUTE.
Jan. 17. "The Clarification and Purification of Municipal Water Supplies," Mr. Allen Hazen. Jan. 20. "This Country of Ours," John Birkinbine. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
Jan. 17. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

WESTERN RAILWAY CLUB.
Jan. 17. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.

WESTERN SOCIETY OF ENGINEERS.
Jan. 18. "Establishment of Street Grades," Charles P. Chase. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.

ENGINEERS' CLUB OF ST. LOUIS.
Jan. 18. Secy., E. R. Fish, 2401 N. Spring Ave., St. Louis, Mo.

BOSTON SOCIETY OF CIVIL ENGINEERS.
Jan. 18. Annual meeting. Secy., S. E. Tinkham, City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Jan. 18. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.

ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
Jan. 18. Secy., Frank H. Olmsted, Byrne Bldg., Los Angeles, Cal.

THE IOWA ENGINEERING SOCIETY.
Jan. 18-19. Annual meeting, Iowa City Ia. Secy., E.P. Boynton, Cedar Rapids, Ia.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
Jan. 18-19. Annual meeting, New York city. Secy., C. W. Hunt, 220 West 57th St., New York city.

NEW YORK RAILROAD CLUB.
Jan. 19. "Railway Signaling," Charles Hansel. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.

ENGINEERS' CLUB OF CINCINNATI.
Jan. 19. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
Jan. 19. Secy., F. A. Charpiot, P. O. Box 15, Savannah, Ga.

THE WEST VIRGINIA SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.
Jan. 19-20. Annual meeting, Charleston, W.Va. Secy., W. Steenbergen, Point Pleasant, W. Va.

NORTHWESTERN ELECTRICAL ASSOCIATION.
Jan. 19-21. Semi-annual meeting, Milwaukee, Wis. Secy., Thos. R. Mercein, 511 Montgomery Bldg., Milwaukee, Wis.

TECHNICAL SOCIETY OF THE PACIFIC COAST.
Jan. 20. Annual meeting. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.

AMERICAN INSTITUTE, and the HENRY ELECTRICAL SOCIETY.
Jan. 20. "Alternating Currents," Wm. H. Freedman. Secy., D. R. Lovejoy, 111 W. 38th St., New York city.

ROCHESTER ENGINEERING SOCIETY.
Jan. 20. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.

THE DETROIT ENGINEERING SOCIETY.
Jan. 20. Secy., Henry Goldmark, Wayne Co. Savings Bank Bldg., Detroit, Mich.

CHICAGO ELECTRICAL ASSOCIATION.
Jan. 20. "Observations on Ventilating Fans," Gerard Swope. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE ENGINEERS' CLUB OF PHILADELPHIA.
Jan. 21. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF COLUMBUS.
Jan. 21. Secy., H. M. Gates, 12½ North High St., Columbus, O.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Jan. 24. Secy., Wm. H. Searles, Case Library Bldg., Cleveland.

NATIONAL ASSOCIATION OF MANUFACTURERS.
Jan. 24-26. Annual convention, Cincinnati, O. Secy., E. P. Wilson, Room A, Chamber of Commerce, Cincinnati, O.

INDIANA ENGINEERING SOCIETY.
Jan. 24-26. Annual meeting, Indianapolis, Ind. Secy., J. B. Nelson, 61 Baldwin Block, Indianapolis, Ind.

MCHIGAN ENGINEERING SOCIETY.
Jan. 24-26. Annual meeting, Lansing, Mich. Secy., F. Hodgman, Climax, Mich.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
Jan. 25. Secy., Ralph W. Pope, 26 Cortlandt, St., New York city.
ILLINOIS SOCIETY OF ENGINEERS AND SURVEYORS
Jan. 25-27. Annual meeting, Champaign, Ill. Secy., Jacob A. Harman, Peoria, Ill.
CANADIAN SOCIETY OF CIVIL ENGINEERS.
Jan. 26. Secy., C. A. McNab, 112 Mansfield St., Montreal, Que.
ENGINEERING ASSOCIATION OF THE SOUTH.
Jan. 26. Secy., C. B. Wilson, 100 Broad St., Nashville, Tenn.
FOUNDRYMEN'S ASSOCIATION OF PHILADELPHIA.
Feb. 1. Secy., Howard Evans, Pier 45, N. Delaware Ave., Philadelphia, Pa.
FOUNDRYMEN'S ASSOCIATION, PHILADELPHIA.
Feb. 1. Secy., Howard Evans, Pier 45, Delaware Ave., Philadelphia, Pa.
BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
Feb. 3. Illustrated lecture, Prof. M. I. Pupin. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
Feb. 3. Secy., O. Von Gerden, 19 Market St., San Francisco, Cal.
ENGINEERING SOCIETY OF WESTERN NEW YORK.
Feb. 6. Secy., H. J. March, Library Bldg., Buffalo, N.Y.
CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Feb. 6. Secy., C. L. Annan, City Engineer's Office, St. Paul, Minn.
AMERICAN INSTITUTE OF ARCHITECTS (New York Chapter).
Feb. 8. Secy., Chas. I. Berg, 10 West 23d St., New York city.
THE LOUISIANA ENGINEERING SOCIETY.
Feb. 13. Secy., J. F. Coleman, 712 Union St., New Orleans, La.
ENGINEERS' CLUB OF KANSAS CITY.
Feb. 13. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.
DENVER SOCIETY OF CIVIL ENGINEERS.
Feb. 14. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Colo.
NORTHWEST RAILWAY CLUB.
Feb. 14. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.
NEW ENGLAND RAILWAY CLUB.
Feb. 14. Secy., Edw. L. Janes, P.O. Box 1158, Boston, Mass.
NATIONAL SANITARY ASSOCIATION.
Feb. 15. Annual meeting, New York city. Secy., Thos. E. Veal, Atlanta, Ga.
ASSOCIATION OF ONTARIO LAND SURVEYORS.
Feb. 18. Annual meeting. Secy., A. J. Van Nostrand, Yanger St., Arcade, Toronto, Canada.

NATIONAL BRICKMAKERS' ASSOCIATION.—The 13th annual convention of this association will be held at Columbus, Ohio, Feb. 7-10. Headquarters will be the Great Southern Hotel, where facilities will be afforded for the exhibition of specimens and clay working apparatus.

Theo. A. Randall, Secy.

CIVIL ENGINEERS' SOCIETY OF ST. PAUL.—The 16th annual meeting of this society was held on Jan. 2. Routine business was transacted and the officers of the society re-elected for the ensuing year. Mr. Geo. L. Wilson was elected Representative on the Board of Managers of the Association of Engineering Societies.

C. L. Annan, Secy.

WESTERN SOCIETY OF ENGINEERS.—The annual meeting was held in Chicago on Jan. 3, at which the following officers were elected: Pres., Onward Bates; First Vice-Pres., Prof. N. O. Whitney; Second Vice-Pres., T. L. Condron; Secy., Nelson L. Litten; Treas., C. W. Melcher; Trustee, August Ziesing.

After the meeting a banquet was given at the Technical Club, during which the annual reports of the officers were presented. The retiring president, Mr. Alfred Noble, delivered an address, and remarks were made by the new officers and other prominent members, including Capt. R. W. Hunt, Mr. L. E. Cooley, Mr. Isham Randolph, and Mr. Willard A. Smith. The latter spoke upon the American engineering exhibit which it is hoped to make at the Paris Exposition of 1900.

The reports showed that the society has now 452 memwhilebers, and that the receipts for the year aggregated $19,935, while the expenditures aggregated $18,341.

AMERICAN PAPER & PULP ASSOCIATION.—The annual meeting of this association will be held at the Waldorf-Astoria, New York city, Feb. 15-16. There will be a business session the morning and afternoon of each day, a reception at 2 o'clock of the first day and a banquet the evening of the second day.

The business sessions will be mainly occupied with a series of papers, the general subject of which will be the "Conservation of Water Power." Papers on different phases of this subject will be read by Messrs. J. T. Fanning, Minneapolis; F. H. Newell, Washington, D. C.; Geo. W. Rafter, Rochester; Col. H. M. Chittenden, U. S. A., and Vernon Harcourt, London, Eng., although the latter will not be present.

There will be articles on "Some Economic Results of Industrial Combinations," Prof. Arthur T. Hadley, New Haven, Conn.; "Recent Advances in Paper Making," A. D. Little, Boston, Mass.; "The Value of Statistics," Hon. Carroll D. Wright, Washington, D. C.; "The Relation of Employer to Employee," Dr. Tolman, Secy. League Social Service.

C. W. Lyman, Secy.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—The 46th annual meeting of this society will be held, as already announced in this column, at the House of the Society, 220 W. 57th St., New York city, Jan. 18-19.

The program as announced by the Secretary, Mr. Chas. W. Hunt, states that the first session will be called at 10 a. m., Jan. 18, to attend to the annual reports, the election of officers and the transaction of other general business.

Excursions for the afternoon of the first day include: No. 1, an inspection of the piers of the new East River Bridge under the direction of Mr. E. G. Freeman, M. Am. Soc. C. E., and Mr. Edwin Duryea, Jr., M. Am. Soc. C. E., Resident Engineers on the Manhattan and Brooklyn sides, resectively; No. 2, an inspection of the docks, piers and bulkhead walls under construction by New York city, which will be conducted by Mr. Chandler Davis, Assoc. M. Am. Soc. C. E., Assistant Engineer, Department of Docks and Ferries. In the evening, beginning at 9 p. m., the usual reception will be held at the Society House. The following day, Jan. 19, the Crescent Shipyard will be inspected by invitation of its President, Mr. Lewis Nixon. The excursion will be made on a special steamer, and on the return trip a stop will be made at the U. S. Navy Yard to permit an inspection of the battleship "Massachusetts," which will be in dry-dock, as well as the "Indiana" and other vessels.

In the evening, at 8:30, Mr. E. Wegman, M. Am. Soc. C. E., will deliver an illustrated lecture at the Society House, subject, "The Old Roman Aqueducts."

On Friday, Jan. 20, an excursion will be made to the new Croton Dam, through the courtesy of Messrs. Coleman, Breuchand & Coleman, the contractors, and arrangements have been made to entertain those who take part in this trip. J. A. Bensel, E. G. Freeman, Chas. W. Hunt, Committee.

NEW PUBLICATIONS.

PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—47th Meeting and 50th Anniversary, held at Boston, Mass., August, 1898. Edited by L. O. Howard, Permanent Secretary, Washington, D. C. Paper; 9½ × 6 ins.; pp. 658.

This publication gives the constitution, officers and lists of members of all grades; the address of the retiring President, and the addresses of the Vice-Presidents of the several sections, together with abstracts of the principal papers presented by members. The annual reports of the committees are also included.

UNIVERSITY OF TENNESSEE RECORD.—Published quarterly by the University of Tennessee Press. No. VII. November, 1898. Paper; 9½ × 6 ins.; pp. 343 to 405; 50 cts. per annum.

This publication takes the place of the University Scientific Magazine, and it is the official organ of the Joseph Le Conte Scientific Society, the Engineering Society and all the engineering and scientific departments of the University. The present number describes the new building for the Department of Mechanical Engineering and Mechanic Arts. Other articles are as follows: Nutrition Investigations, Chas. E. Wait; A Volumetric Determination of Iron in the Presence of Hydrochloric Acid, Ed. F. Kern; A Convenient Form of Gas Generator, Chas. E. Wait; Meteorological Observations by Means of Kites, W. M. Fulton; A Cyclostat, Chas. A. Perkins; New Tests for Speeds of Photographic Shutters, J. R. McColl; Chimney Designs, Chas. E. Ferris.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 6 1-2 x 9 ins.; 6 x 9 ins., and 9 x 12 ins.)

SPORTING POWDER.—American Powder Mills, 233 State St., Boston, Mass., and 188 Madison St., Chicago, Ill. Paper, 3½ × 6 ins.; pp. 20.

This pamphlet contains particulars of the special qualities of the powders made by these mills for sporting and blasting purposes.

GAS AND OIL BURNERS.—Claybourne Burner Co., Old Colony Building, Chicago, Ill. Paper, 9½ × 6 ins.; pp. 24.

The burner has a globular chamber, to the back of which are attached the steam and oil or gas pipes, while the opposite end is drawn out into a neck which is fitted with any desired form of nozzle suitable for natural gas, fuel gas, oil or coal dust. The list of users shows that the burners are in quite extensive use.

METAL BOLSTERS.—Simplex Railway Appliance Co., Fisher Building, Chicago, Ill. Paper, 10 × 6¼ ins.; pp. 4.

The Simplex & Marshall body and truck bolsters are built up of rolled steel channels and plates, with malleable iron castings for the spacing pieces. The body bolster has a horizontal top member, while the truck bolster has cambered steel channel top member trussed by a flat plate riveted to the ends of the channel and passing under a malleable iron strut at the center. The truck bolster was described in the article on "Metal Trucks for Freight Cars," in our issue of Sept. 15, 1898.

ELECTRIC POWER—THE LUNDELL MOTOR.—Sprague Electric Co., New York city. Pamph., 7 × 9¼ ins.; pp. 72; illustrated.

This pamphlet is devoted to a general description of the Lundell motor, and the several types intended for special service as well as the principle of operation and details of construction of the motor are clearly shown by a series of excellent half-tone illustrations.

A series of curves showing the efficiency of the various sizes of motors at different loads is included. Lettered outline drawings of the same machines and corresponding tables giving complete data and dimensions conclude the first half of the catalogue. The remaining pages, under the title of applications, show by means of excellent full-page half-tones, taken from actual machines, a variety of purposes for which the Lundell motor is especially adapted.

CHLORIDE ACCUMULATOR.—Special Types for Electric Vehicles or Automobiles. The Electric Storage Battery Co., Philadelphia, Pa. Pamph., 6 × 9 ins.

This is the first edition of a special pamphlet published by this company to furnish information relative to the types of accumulators or storage batteries manufactured by it for self propelling electric vehicles. This special form of cell to which attention is called is known as the MV. type and is the one used by the Electric Vehicle Co., operating the electric cabs in New York city.

Tables giving the size and number of plates, weights of cell and its parts, output and other special items, among them a set of instructions for setting up and using chloride accumulators, are included.

TRANSFORMERS AND THEIR PROFITABLE USE.—The New York & Ohio Co., Warren, O. Pamph., 3½ × 9¼ ins.; pp. 28.

This pamphlet is made up largely of a paper by Prof. Dugall C. Jackson, discussing the factors essential for profitable transformer operation, and including tables, curves and other data obtained from tests of the "Packard" transformers. A set of "General Instructions for Testing Transformers," by Henry W. Wiswell, and a brief description of the types of transformers manufactured under the trade name of "Packard" are also included.

"PACKARD" LAMPS.—This pamphlet briefly describes some of the general features of the incandescent lamps manufactured by the New York & Ohio Co., and then gives full-sized illustrations of the various types designed for special or general use.

DYNAMITE AND BLASTING POWDER.—The Aetna Powder Co., 188 Madison St., Chicago, Ill. Three pamphlets; paper; 5¼ × 7¾ ins., pp. 43; 5¼ × 7¾ ins., pp. 34; 3½ × 5¼ ins., pp. 28.

These pamphlets contain descriptions and prices of the company's different grades of explosives and apparatus used in blasting, together with instructions for their use on various kinds of work. For the dynamite a special degree of safety is claimed. Among the specialties is the Rundle patent device for thawing frozen cartridges. The pamphlets are neatly printed and contain much useful information for those in charge of blasting operations. One of the larger pamphlets is in Spanish, for use in the South American states. The company has a local agent at Cartagena, U. S. Colombia.

AIR BLAST AND NATURAL DRAFT TRANSFORMERS.—General Electric Co., Schenectady, N. Y. Pamph.; 8 × 10½ ins.; illustrated.

This is bulletin No. 4146 of the regular General Electric series, issued by the Power and Mining department of that company, to call attention to two types of transformers designed to supersede the older forms employing oil cooling.

RAILWAY MOTORS FOR NARROW GAGE ROADS.—Bulletin 4147. This describes the salient features of what is termed the G.E.-58 railway motor, a type of motor intended for comparatively heavy service where the usual street car motor would be too light. The motor has an output of 37 HP., a minimum gage of 30¼ ins. and weighs when complete, including gear and gear case, 2,150 lbs.

REGULATORS FOR SERIES INCANDESCENT SYSTEMS.—This is bulletin 4148 and it describes a switchboard for use on alternating series incandescent lighting circuits. This board consists of a compensating transformer mounted upon the rear face of the board, operated by a hand wheel upon the front, and an ammeter to show when the proper adjustment is secured.

RUNNING LIGHT TELLTALE BOARDS.—Bulletin 4149. This is a description of a device designed to use on shipboard to inform the engineer or the person responsible when the signal lanterns or running lights are extinguished. This form has a lamp and a buzzer arranged so that any accident at extinguishment of the lamps is indicated both visibly and audibly.

MAGNETIC BLOW-OUT AUTOMATIC CIRCUIT BREAKERS.—This is also a bulletin, No. 4150, which is devoted to a description of the several forms of automatic magnetic blow-out circuit breaker manufactured by the General Electric Co.

RAILWAY SWITCHBOARDS.—This is the title of bulletin 4151 and, as the name implies, it illustrates and describes various types of switchboards and fittings intended for railway work.

DIRECT DRIVEN LIGHTING GENERATORS.—Bulletin 4152. This pamphlet points out the advantages of directly driving generators, explains the features of construction of such generators and gives tabulated data of the various sizes and styles manufactured by the General Electric Co.

POLYPHASE MACHINERY FOR THE ELECTRICAL TRANSMISSION OF POWER.—Bulletin 4153. This pamphlet calls attention to such apparatus as two and three-phase generators and motors, induction and synchronous motors, and transformers designed for generating, transforming and using polyphase current.

THE MONOCYCLIC SYSTEM.—Bulletin 4154. In this pamphlet the apparatus for operating the monocyclic power or lighting system is described and illustrated, and the principles of operation are briefly explained.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Jan. 12.	Cement,	St. Paul, Minn.	Dec. 15
	Advertised, Eng. News, Dec. 15 to Jan. 5.		
Jan. 12.	Power house,	Annapolis, Md.	Dec. 22
Jan. 12.	Sea wall,	Annapolis, Md.	Dec. 22
Jan. 12.	Sewerage connections,	Cleveland, O.	Jan. 5

Jan. 12. Teaming, etc., Canton, O. .....Jan. 12
Jan. 12. Street cleaning, Philadelphia, Pa. .....Jan. 12
Jan. 12. Electric lighting, Nevada City, Cal. .....Jan. 12
Jan. 12. Electric lighting, London, England. .....Jan. 12
Jan. 13. Water pipe, London, England. .....Jan. 5
Jan. 13. Pipe sewers, St. Louis, Mo. .....Jan. 5
Jan. 13. Water mains, Goshen, Ind. .....Jan. 5
Jan. 13. Electric lighting, etc., Minneapolis, Minn...Jan. 5
Jan. 13. Loading garbage scows, etc., New York...Dec. 29
Jan. 14. Park work and plans, Philadelphia, Pa...Nov. 15
Jan. 14. Steam tenders (3), St. Louis, Mo. .....Dec. 22
Jan. 14. Piles and stones, St. Louis, Mo. .....Dec. 22
Jan. 14. Grading, paving, etc., Pittsburg, Pa.....Jan. 12
Jan. 14. Engineer and draftsman, Eaton, O. .....Jan. 12
Jan. 15. Water-works, Baltimore, Md. .....Jan. 12
Jan. 15. Sewers and drainage, Callao, Peru.....Dec. 1
Jan. 15. Street cleaning, Indianapolis, Ind. .....Dec. 15
Jan. 16. Sale of telephone franchise, Duluth, Minn. Dec. 8
Advertised, Eng. News, Dec. 8 to Jan. 12.
Jan. 16. Pipe sewers, Elizabeth, N. J. .....Dec. 22
Jan. 16. Broken stone, etc., Tampa Bay, Fla. ....Dec. 29
Advertised, Eng. News, Dec. 29 and Jan. 5.
Jan. 16. Bridge abutments, Boston, Mass.....Jan. 5
Jan. 16. Paving, curbing, etc., Atlantic City, N.J..Jan. 5
Advertised, Engineering News, Jan. 5.
Jan. 16. Water bonds, Whittier, Cal. .....Jan. 5
Jan. 16. Engineers' supplies, etc., New York, N.Y..Jan. 12
Jan. 16. Brick sewers, Williamsport, Pa.....Jan. 12
Jan. 16. Brick sewer, Denver, Colo. .....Jan. 12
Jan. 16. Bonds, Bound Brook, N. J. .....Jan. 12
Jan. 16. Gravity coal wharf, Port Johnston, N. J...Jan. 12
Advertised, Engineering News, Jan. 12.
Jan. 16. Asphalt paving, Louisville, Ky. .....Jan. 12
Jan. 17. Bridge repairs, St. Paul, Minn. .....Jan. 12
Jan. 17. Asphalt paving, New York, N. Y.....Jan. 12
Jan. 17. Receiving basins, Mount Vernon, N. Y. ....Jan. 5
Jan. 17. Street railway franchise, Pasadena, Cal...Jan. 5
Jan. 17. Street lighting, Mount Vernon, Ind.....Jan. 5
Jan. 17. Boiler house, etc., Lexington, Ky.....Jan. 5
Jan. 17. Water-works bonds, Bozeman, Mont.....Dec. 29
Jan. 17. Macadamizing, Cincinnati, O. .....Dec. 29
Jan. 17. Bridge and plans, Binghamton, N. Y.....Dec. 22
Advertised, Eng. News, Dec. 22 and 29.
Jan. 18. Court house plans, Mineola (L.I.), N. Y...Dec. 22
Jan. 18. Water-works, Winchester, Ind. .....Dec. 22
Jan. 18. Extending electric plant, Winchester, Ind..Dec. 22
Jan. 18. Sewers, Aiken, S. C. .....Dec. 15
Advertised, Eng. News, Dec. 15 and 22.
Jan. 18. Garbage crematory, San Francisco, Cal....Jan. 5
Jan. 18. Steel shrapnel, Washington, D. C.....Jan. 12
Jan. 19. Hardware, etc., New York, N. Y.....Jan. 12
Jan. 19. Water-works, Florence, Colo. .....Jan. 12
Advertised, Engineering News, Jan. 12.
Jan. 19. Sidewalks, Findlay, O. .....Jan. 12
Jan. 19. Heating, etc., Pottsville, Pa. .....Dec. 29
Advertised, Eng. News, Dec. 29 and Jan. 5.
Jan. 19. Steam heating, etc., Akron, O. .....Dec. 29
Jan. 19. Docks, dredging, etc., Cleveland, O.....Dec. 29
Jan. 20. Street lighting, Belding, Mich. .....Dec. 29
Jan. 20. Revetments, Houghton, Mich.....Dec. 29
Jan. 20. Wharves and dredging, Honolulu, H. I....Dec. 29
Jan. 20. Boilers and machinery, St. Joseph, Mich..Dec. 29
Advertised, Eng. News, Dec. 29 and Jan. 5.
Jan. 20. Hotel building, Evansville, Ind.....Jan. 5
Jan. 20. Steam fog signals, etc., Erie, Pa.....Jan. 5
Jan. 20. Towing deck scows, New York, N.Y.....Jan. 12
Jan. 21. Paving, Lynchburg, Va. .....Jan. 12
Jan. 21. Building, Washington, D. C.....Dec. 29
Jan. 21. Artesian well, Cheboygan, Mich. .....Jan. 5
Jan. 23. Broken stone, etc., New London, Conn...Dec. 29
Advertised, Eng. News, Dec. 29 to Jan. 19.
Jan. 23. Bonds, Selkirk, Man. .....Jan. 5
Jan. 23. Water-works bonds, Canton, O. .....Jan. 5
Jan. 23. Hospital building, New Orleans, La. .....Jan. 12
Jan. 23. Electric lighting, Sea Isle City, N. J. .....Jan. 12
Advertised, Engineering News, Jan. 12.
Jan. 23. Pipe sewers, South Bend, Ind. .....Jan. 12
Jan. 23. Sewer, Yuma, Ariz. .....Jan. 12
Jan. 24. Alterations to engines, London, England...Jan. 12
Jan. 24. Steel bridge, Waverly, Ia. .....Jan. 12
Jan. 24. Sewer pipe, East Liverpool O. .....Jan. 12
Advertised, Eng. News, Jan. 12 and 19.
Jan. 24. Water-works bonds, Wamego, Kan. .....Dec. 29
Jan. 24. Iron bridges (2), St. Thomas, Ont.....Dec. 22
Advertised, Eng. News, Dec. 22 and 29.
Jan. 24. Storage batteries (4), Ft. Monroe, Va.....Jan. 5
Advertised, Eng. News, Jan. 5 and 12.
Jan. 24. Water-works, Canby, Minn. .....Jan. 5
Jan. 24. Garbage collection, etc., Chicago, Ill.....Jan. 5
Jan. 25. Dormitory building, etc., Phoenix, Ariz...Dec. 29
Jan. 25. Water-works bonds, McConnellsville, O....Jan. 5
Jan. 25. Water-works, etc., Orangeburg, S. C.....Jan. 5
Advertised, Engineering News, Jan. 5.
Jan. 25. Conduit material, Baltimore, Md. .....Jan. 12
Advertised, Eng. News, Jan. 12 and 19.
Jan. 26. Brick, etc., Washington, D. C. .....Dec. 29
Advertised, Eng. News, Dec. 29 to Jan. 19.
Jan. 27. Water cylinders, Cleveland, O. .....Jan. 5
Jan. 28. Gas lamps (7,750), Cleveland, O. .....Jan. 5
Jan. 28. Steam launch, San Diego, Cal. .....Jan. 12
Jan. 28. Water-works, New Albany, Ind.....Jan. 12
Advertised, Engineering News, Jan. 12.
Jan. 30. Day beacons (6), Florida Reefs, Fla.....Jan. 5
Advertised, Eng. News, Jan. 5 to 26.
Jan. 30. Brick paving (11,000 sq.yds.), Kokomo, Ind. Jan. 12
Jan. 31. Wharf, Fort Barrancas, Fla. .....Jan. 12
Jan. 31. Drainage work, Chipping Norton, England. Jan. 12
Jan. 31. Dry dock, Boston, Mass. .....Dec. 29
Feb. 1. Substructure of canal pier, Duluth, Minn...Jan. 5
Advertised, Eng. News, Jan. 5 to 26.
Feb. 1. Library building, Owatonna, Minn.....Jan. 5
Feb. 1. Electric light plant, Richmond, Va. .....Jan. 5
Feb. 1. Electric light plant, Menahga, Minn. .....Dec. 29
Feb. 1. School building, Peoria, Ill. .....Dec. 1
Feb. 1. Jail building, Alexandria, La. .....Jan. 12
Feb. 1. Wharves and dredging, Honolulu, H. I....Jan. 12
Feb. 1. Macadamizing, Fayetteville, Ark. .....Jan. 12
Feb. 2. Electric lighting, New Orleans, La.....Nov. 3
Feb. 3. Dredging (1,750,000 c.yds.), Houghton, Mich. Dec. 29
Feb. 3. Sewer pipe (16 miles), Spartanburg, S. C...Jan. 12
Advertised, Eng. News, Jan. 12 and 19.
Feb. 3. Pipe sewers, Spartanburg, S. C.....Jan. 12
Advertised, Eng. News, Jan. 12 and 19.
Feb. 6. Brick paving, Toledo, O. .....Jan. 12
Feb. 3. Dredging canals, Keweenaw Point, Mich..Jan. 5
Advertised, Eng. News, Jan. 5 to 26.
Feb. 7. Sale of canal, Annapolis, Md. .....Dec. 1
Feb. 10. Jail building, Keyser, W. Va.....Sept. 20
Feb. 13. Water bonds, Reno, Nev. .....Dec. 22
Feb. 13. Court house, Rock Springs, Tex. .....Jan. 12
Feb. 16. School building, Ellendale, N. Dak.....Jan. 12
Feb. 16. Macadamizing, Decatur, Ind. .....Jan. 12
Feb. 20. Lift bridge near Taylor St., Chicago, Ill..Dec. 29
Advertised, Engineering News, Dec. 29.
Feb. 21. Pumping plant, Honolulu, H. I. .....Jan. 12
Advertised, Eng. News, Jan. 12 and 19.
Feb. 25. Court house, Douglass, Ga. .....Dec. 29
Feb. 28. Dust-cart designs, London, England.....Jan. 5
Mar. 1. Court house, Arkadelphia, Ark. .....Jan. 5
Mar. 1. Railway and highway bridge, Quebec, Que. Jan. 12
Advertised, Eng. News, Sept. 29 and Oct. 6.
Mar. 12. Electric light plant, Manlius, N. Y.....Jan. 12
Mar. 15. Purchase of water-works, Belem, Brazil...Dec. 1
Mar. 15. Electric r'y (23 miles), Shanghai, China...Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.
Mar. 31. Telephone concessions, Shanghai, China..Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.
Apr. 1. Viaduct substructure, St. Joseph, Mo. .....Jan. 5

RAILWAYS.

ALABAMA & FLORIDA.—R. M. Quigley & Co., Contractors, St. Louis, Mo., are stated to have completed the grading on this proposed line and laid about three miles of track. The route extends from Georgiana to River Falls, Ala., a distance of about 30 miles. Charles Seymour, Ch. Engr., Georgiana, Ala.

ARBUCKLE & WOLF CREEK VALLEY.—This company was incorporated in West Virginia, Jan. 3, with a capital stock of $100,000, to build a railway in Fayette county from the Great Kanawha River to White Oak Creek. The incorporators are: J. M. Richards, W. Richards, A. L. Richards, M. Richards, Oak Hill, W. Va.; J. A. Franklin, New Orleans, La.

CAIRO, HOPKINSVILLE & CUMBERLAND GAP.—We are informed that this company was incorporated about two years ago, and a survey made by Hood Tucker from Cairo, Ill., to Mayfield, Ky., and thence following the state line into Jellico and Cumberland Gap, a distance of 360 miles. Owing to the unsettled condition of the country at that time nothing was done; but it is now reported that surveys will be continued at once from Cumberland Gap into Bristol, Tenn., via Sneedville, Blountville and Rogersville, Tenn. B. A. Neale, Pres.; Hood Tucker, Ch. Engr., Mayfield, Ky.

CANADIAN PACIFIC.—Reports state that this company is surveying a route for a railway from Mattawamkeag to Princeton, to connect with the Washington County Ry. at Calais, Me.

CANE BELT.—This company is reported to have completed its line from Eagle Lake to Bonus, 11 miles. The company was incorporated March 8 to construct a line from Eagle Lake to Columbus, 16 miles. William Dunovant, Pres.; J. C. Kelly, Ch. Engr., both of Eagle Lake.

CHESAPEAKE BEACH.—J. L. McNeil, Vice-Pres., Washington, D. C., informs us that trains are now running on this new line of steam railway from the Baltimore & Ohio R. R. station, Washington, to Upper Marlboro, about 12 miles, and that the remaining 18 miles of the line to Chesapeake Beach are about completed and are expected to be operated in March. Otto Mears, Pres.; W. A. Beerbower, Ch. Engr., both of 1420 New York Ave., Washington.

CHICAGO, FORT MADISON & DES MOINES.—This company was incorporated in Iowa, Jan. 6, with a capital stock of $852,000, and is a reorganization of the old company formerly operating 71 miles of railway. The new directors are: E. S. Conway, Chicago, Ill.; E. H. Skinner, Birmingham, Ia.; Isaac T. Burr, G. T. Williams, William H. Atlee, Samuel Atlee, G. D. Braman, E. F. Potter and Jesse A. Baldwin. The line will probably be extended soon from Ottumwa into Des Moines. It will be allied with the Santa Fe at Fort Madison, Ia., and will give Des Moines a new transcontinental railway.

CHICAGO, IOWA & DAKOTA.—H. C. Stuart, Gen. Mgr., Eldora, Ia., informs us that this company does not contemplate the construction of an extension from Alden to Elmore, as currently reported.

DECKERVILLE, OSCEOLA & NORTHERN.—Forrester & Warren, Midway, Ark., are reported to have been awarded the contract for building an extension of the line from Wardell to Osceola, a distance of about 25 miles. It is intended to connect with the Cotton Belt Ry. at Pawpaw Junction, via Osceola and Blythesville, Ark., and Covington, Hayti, Bragadocia and Portageville, Mo., thus passing through a rich timber district. Geo. W. Decker, Pres., Newport, Ark.; E. M. Ford, Vice-Pres. and Mgr., Deckerville, Ark.

DES MOINES, NORTHERN & WESTERN.—Press reports state that this system has been bought by the Chicago, Milwaukee & St. Paul Ry. Co. The capital stock of the company was something over $3,000,000. The property consists of the line from Des Moines to Fonda, Ia., 114 miles in length; the line from Des Moines to Moone, 42 miles, and the usual railway equipment. The road will be operated as a part of the Council Bluffs division of the Chicago, Milwaukee & St. Paul.

GEORGES VALLEY.—James Mitchell, Pres., Union, Me., informs us that nothing has yet been done towards extending this line from Union about eight miles north to Searsmont, Me.

HUTCHINSON & SOUTHERN.—We are informed that this company is now locating an extension of its line from Blackwell, Okla. Ter., to a connection with the Santa Fe about 27 miles east. A further extension to the McAllister coal fields is contemplated, but it is only expected to build the former extension at present. W. A. Bradford, Jr., Pres., Hutchinson, Kan.; H. L. Jackson, Ch. Engr., Blackwell.

INTER-URBAN.—W. T. Forsythe, Ch. Engr., Avondale, Pa., informs us that the preliminary survey has been completed and location filed and adopted and about three-fourths of the right of way obtained for this proposed railway from 63d and Market Sts., Philadelphia, to Lancaster, via Fernwood, Lansdowne, Clifton, West Chester, Unionville and Quarryville, a distance of 80 miles. The motive power is to be steam. The capital for construction has been secured, and it is expected to let contracts in March or April. No contracts have yet been awarded. Winslow Mason, Pres., 410 Mutual Life Bldg., 1001 Chestnut St., Philadelphia, Pa.

KANSAS SOUTHWESTERN.—James Glover, Director, Bluff City, Kan., informs us that the filing of a charter for this company on Dec. 23 is all that has yet been done toward reorganization. The new company may build southeasterly into Indian Territory if the present line is not sold to the St. Louis & San Francisco, the Atchison, Topeka & Santa Fe, the Missouri Pacific, or the Chicago, Rock Island & Pacific companies.

LAKE TAHOE RY. & TRANSPORTATION.—F. I. Kendall, Secy., San Francisco, Cal., informs us that the surveys have been made, most of the right of way obtained and the capital for construction secured for this new line from Truckee, on the Central Pacific Ry., to Lake Tahoe, 15 miles. Contracts will first be let about March 15. The company has bought the steamer of the Lake Tahoe Transportation, and it will be run in connection with the railway; total distance, 70 miles. D. L. Bliss, Pres.; W. S. Bliss, Ch. Engr., both of 3 Crocker Bldg., San Francisco.

LAUREL & NORTHWESTERN.—Eastman, Gardiner & Co., Laurel, Miss. are stated to be building 22 miles of line for this company, to be completed before Sept. 1. Arthur J. Cox, Ch. Engr., Iowa City, Ia.

LITCHFIELD, CARROLLTON & WESTERN.—Reports state that this line, which was sold Nov. 26 to Johnson Bros. & Faught, St. Elmo, Ill., at $85,000, has been resold by them to Henry T. Carroll and David R. Francis & Co., of St. Louis, the original owners. It is expected to extend the line to Quincy, Ill., and to make a number of needed improvements.

MUSCATINE, NORTH & SOUTH.—It is announced that this railway will be completed and opened for traffic on Jan. 20. The route is from Elrick to Muscatine, via Wapello, Grand View and Fruitland, Ia., 30 miles. Balch, Peppard & Johnson, Minneapolis, Minn., received the contract on July 13. W. R. Stewart, Pres., Muscatine, Ia.; G. M. Willis, Ch. Engr., Wapello.

OHIO VALLEY.—This company was incorporated in Pennsylvania, Jan. 7, with a capital stock of $125,000, to build a steam railway 12¼ miles long, from Coraopolis to Freedom, Pa. The directors are: A. P. Kirtland, Pres., and John C. White, Pittsburg, Pa.; J. J. Houghton, Allegheny, Pa.; W. T. Wallace, L. S. Brock, H. F. Woodbury and W. P. Potter, Pittsburg; A. P. Meyers, Sharpsburg, Pa.

OMAHA BRIDGE & TERMINAL.—The city council of Omaha, Neb., has granted a franchise to this company to use certain streets for its tracks. By this action the Illinois Central and the Chicago Great Western Ry. Cos., which control this terminal, will gain an entrance into Omaha.

PHILADELPHIA, READING & NEW ENGLAND.—W. J. Martin, Supt., Hartford, Conn., is reported to have announced that this company intends to build a branch line to Springfield, Mass., that will either parallel the New York, New Haven & Hartford from Hartford or run northerly from Winsted to Tariffville. The extension from Tariffville will give it a connection with the Boston & Maine R. R. at Springfield.

ST. LOUIS, IOWA & NORTHERN.—C. J. Du Bois, Ch. Engr., Macon, Mo., informs us that a preliminary survey has been made and 60 miles located for this proposed line, from Memphis to Herman, Mo., via Edina, Bethel, Shelbyville, Shelbina, Paris and Mexico, a distance of 285 miles. Capital has been partly secured and negotiations for the balance are under way. Contracts will be let in March, and it is expected to complete 136 miles of line, from Eldon, Ia., to Mexico, Mo., during the coming year. S. H. Sawyer, Pres., Eldon, Ia.

VANCOUVER, NORTHERN & YUKON.—Walter Moberly, Ch. Engr., 108 Abbott St., Vancouver, B. C., informs us that this company is just being formed and hopes to obtain a charter from the Provincial Legislature, which meets this month. The proposed route is from Vancouver to the east boundary of Alaska, via Quesnel, Germensen and Dawson, 1,470 miles. Branch lines are also projected to Attin City, Hazleton, Kitimat and Fort St. John, aggregating 835, or with main line, a total of 2,305 miles. Professor A. R. C. Selwyn, Chn. Bd. of Directors, Vancouver.

WASHINGTON.—Malcom M'Dougall, Colonial Bldg., Seattle, Wash., has been granted a permit by the King county commissioners to build and operate a standard-gage or a street car line from Commencement Bay, opposite Tacoma, to Seattle.——Reports state that the Mason County Logging Co. has invited bids for the construction of 4½ miles of standard-gage railway from the Black Hills to Little Rock, connecting with the Northern Pacific at Olympia, Wash.

WEST VIRGINIA & KENTUCKY.—This company was incorporated in Kentucky, Jan. 4, with a capital stock of $25,000, to construct a line between Devon, W. Va., and the coal region near Pawpaw, Ky. The incorporators are: W. H. Briggs and Leon Isaacson, of Ironton, O.

WICHITA & SOUTHERN.—O. H. Bentley, of Wichita, Kan., and capitalists of Hartford, Conn., and Boston, Mass., have incorporated as the Wichita & Southern Ry. Co. to construct 175 miles of line from Wichita towards the coal fields of the Indian Territory. A reconnoissance has been made, but no location. H. L. Jackson, of Wichita, will probably be the engineer.

STREET AND ELECTRIC RAILWAYS.

WAITSFIELD, VT.—This town has voted to issue $19,000 in bonds, according to reports, to aid in the construction of the proposed Mad River Valley Electric R. R., from Montpelier to Waitsfield. F. C. Kennedy, Pres., Burlington, Vt.; V. K. Nash, Ch. Engr., Woonsocket, R. I.

FITCHBURG, MASS.—A hearing will be given by the council on Jan. 27 to consider two petitions for franchises from the Fitchburg & Suburban St. Ry. Co. H. L. Pierce, Pres.

MILFORD, MASS.—Edward Price, Contractor, Warren, Mass., informs us that the extension to the power house of the Milford, Holliston & Framingham St. Ry. Co., at Milford, will be 26 × 81 ft., and will have a Milford granite basement 8 ft. high. The additional power will be derived from a direct-connected 500-HP. static engine, a General Electric motor and one 150-HP. Dillon boiler. F. M. Daniels, Ch. Engr.

PITTSFIELD, MASS.—Joseph Tucker, Pres. of Pittsfield St. Ry. Co., informs us that no extension of its line to Pecks and Onota is proposed, as currently reported.

SOUTH FRAMINGHAM, MASS.—The selectmen have granted the petition of the Framingham, Southboro & Marlboro St. Ry. Co., praying for permission to extend its tracks from the present terminus on Worcester St. from the passenger station of the New York, New Haven & Hartford R. R., in an easterly direction over the tracks of this company at grade, to the terminus of the Framingham Union St. Ry.

MAMARONECK, N. Y.—The highway commissioners of this village will give a hearing, Jan. 25, to the application of the Tarrytown, White Plains & Mamaroneck R. R. Co. for a franchise to build on the Boston Post Road.

PELHAM MANOR, N. Y.—The Westchester Electric R. R. Co., said to be controlled by the Union Ry. Co., has filed with the secretary of state a certificate of extension of route, as follows: From intersection of Old Boston Post Road and Pelhamdale Ave. to the Boston Turnpike, and along the turnpike to the boundary line of New Rochelle; also along Pelhamdale Ave. from Boston Turnpike Road to the Shore Road and along the Shore Road to the boundary line of New Rochelle, and also along Boston Turnpike from Pelhamdale Ave. to the boundary line of New Rochelle.

PENN YAN, N. Y.—It is reported that new arrangements are about to be made for the construction of the electric railway from Penn Yan to Geneva, via Bellona, which was projected last spring. Surveys have been made and some of the rights of way obtained. O. H. Hubbell, Baltimore, Md., is said to be the principal promoter.

TROY, N. Y.—The council granted a franchise to the Troy City Ry. Co., Jan. 5, to build the proposed extension up Mill St., from Burden Ave. to Vandenburg Ave. C. Cleminshaw, Pres. and Gen. Mgr.

SPRING CITY, PA.—The Montgomery & Chester Electric Ry. Co. has petitioned the town council for a franchise. The Fairmount Construction Co., 723 Walnut St., Philadelphia, will build the line. George F. P. Wanger, Ch. Engr., Pottstown, Pa.

WASHINGTON, D. C.—Frederick C. Stevens and O. T. Crosby have purchased a controlling interest in the Capital Ry. Co., which puts the City & Suburban (formerly the Eckington & Soldiers' Home), Belt, Anacostia, Washington & Tenleytown and the Capital Rys. under one management.——A bill has been introduced requiring the City & Suburban Ry. within one year to extend its system by a single track from North Capital and Q Sts., west on Q to Massachusetts Ave. extended, and thence to R St. and east on R St., using the underground system.——Engineers are at work staking out the line for an extension of the Tenleytown line from Bethesda to Rockville, a distance of eight miles.——The commissioners have recommended adverse action on a bill to prevent the Capital Traction Co. from consolidating with other systems, stating that in their opinion consolidation is often an advantage to the public by giving better service and one fare. As an example, they cite the consolidation of the Washington & Georgetown and the Chevy Chase companies.

FINCASTLE, VA.—It is reported that work on the proposed electric railway, to connect Fincastle and Cloverdale, Botetourt county, will begin at an early day. The ultimate terminus will probably be Roanoke.

LYNCHBURG, VA.—The Virginia Paving Brick Co., R. H. T. Adams, Pres., Lynchburg, is stated to have been awarded the contract for the construction of the proposed street railway of the Lynchburg Ry. & Light Co., to cost about $70,000. This does not include the power house nor power house equipment.

ENSLEY, ALA.—The Birmingham Traction Co. has filed a petition with the commissioners of Jefferson county for a right of way from 19th St. and 6th Ave., Birmingham, to Ensley, via Owenton. G. H. Clark, Ch. Engr. and Supt., 1st Ave. and 21st St., Birmingham.

AKRON, O.—The Akron, Bedford & Cleveland R R Co. has a corps of engineers under George Paul at work surveying a line from Chittenden, about five miles north of Cuyahoga Falls, to Hudson, with the intention of building a branch to that village. It is stated that the survey is only preliminary, and that it has not yet been determined to construct the extension. A meeting of the stockholders will be held Feb. 6 in order to issue $1,000,000 of bonds, part of which is for projected extensions and improvements.

CHAGRIN FALLS, O.—We are informed that J. R. Curtiss, Cleveland, O., has been awarded the contract for track-laying on the Chagrin Falls & Eastern Electric R. R. Jay E. Latimer has the contract for overhead work. The proposed route is from South Newbury to Garretsville, via Burton, Troy and Hiram, 26 miles. R. S. Hubard, Pres., Cleveland, O.

GALION, O.—It is reported that this city has accepted a bond of $5,000 from C. E. Thompson, Wells Campbell, John I. Bradley, Fred. C. Boyd and W. M. Anthony, of New Haven, Conn., assignees of W. E. Haycox, of Mansfield, O., to whom was granted a franchise to construct and operate a street railway to connect Galion, Crestline, Leesville Cross Roads and Bucyrus. Cars are to be running by June 1.

ZANESVILLE, O.—The Zanesville Electric Ry. Co. was incorporated, Dec. 31, with a capital stock of $300,000, by James R. Garfield, Harry A. Garfield, Frederick C. Howe, Frank J. Pool and Max J. Rudolph. This is supposed to be a reorganization of the Zanesville Ry. & Electric Co., of which Will Christie is the receiver.

ELWOOD, IND.—Reports state that the Union Traction Co., of Anderson, Ind., has bought the Elwood Electric St. Ry., and that Elwood, Alexandria and Anderson will now be united. C. L. Henry, Anderson, is interested.

INDIANAPOLIS, IND.—The Indianapolis & Logansport Traction Co. was incorporated, Dec. 30, with a capital stock of $100,000, to construct and operate a rapid transit street railway to be operated by electricity and other approved power, in and between Indianapolis, Frankfort & Logansport, and between Logansport and Warsaw, and to build power houses for its own use, and to furnish electric or other power for public or private uses. The incorporators are: George J. Marott, Horace F. Wood, Robert C. Light, Alford R. Hovey, Michael A. Jordan and John C. Ruckelshaus.

MANISTEE, MICH.—We are informed that the Manistee, Filer City & East Lake Ry. Co. is building a one-mile extension of its line to a farm on the shore of Lake Michigan, where it is proposed to lay out a public park and summer resort. G. A. Hart, Pres. and Mgr.

CHICAGO, ILL.—It is reported that the Metropolitan & West Side Elevated Ry. was sold, Jan. 4, to Frederick P. Olcott, of New York, chairman of the reorganization committee, at $6,700,000.

MISSOURI VALLEY, IA.—Messrs. Edgecomb, Deur, Kellogg and Kramer, of this town, are said to be interested in the building of a line here.

KANSAS CITY, MO.—Reports state that contracts will soon be awarded for the entire reconstruction of the Northeast Electric Ry. W. C. Weaver, Supt.

DENVER, COLO.—The Denver City Traction Co. was incorporated, Dec. 31, with a capital stock of $1,450,000, for the purpose of purchasing and operating the lines and franchises formerly operated by the Denver City Cable Co. and the West End Electric Co. The directors are: Samuel M. Perry, Charles B. Whitehead, David F. Bowen, J. Fred. Zell, Charles F. Musgrave, William B. Peck and Harry W. Thomas.

LOS ANGELES, CAL.—It is announced that the Los Angeles & Pasadena Ry., an electric line between Los Angeles and Altadena, has been bought by the Southern Pacific Ry. Co. C. P. Huntington, H. E. Huntington, A. Borel, Christian De Guigne and I. W. Hellman are named as purchasers of the property, which consists of about 40 miles of track. Extensive improvements will probably be made.

HAVANA, CUBA.—The Havana Electric Ry. Co. was incorporated in New Jersey, Jan. 7, with a capital stock of $5,000,000, to construct and operate railways, electric light plants, etc. It is reported that the cars will be furnished by the J. G. Brill Co., of Philadelphia. The incorporators are: W. P. S. Melvin, East Orange, N. J.; G. K. B. Wade and Herbert A. Howell, of New York.

DARTMOUTH, N. S.—Reports state that Recorder Russell has drafted a bill to go before the next legislature authorising this town to borrow $150,000 for the construction of about 12 miles of tramway to Cow Bay, and of an electric light plant.

ELECTRIC LIGHT AND POWER.

SANFORD, ME.—A company, it is stated, is being organized to build a water-power plant at Goodwin's Mills, with a view to furnishing power and lights to Biddeford and Saco.

LACONIA, N. H.—Bids are reported as being asked by S. C. Frye, Cy. Clk., for furnishing 100 2,000 or 1,200-c. p. arc lights, 300 Welsbach lights, etc., for a term of five years.

MELROSE, MASS.—The assembly will be asked to grant this place authority to build a municipal plant.

CANTON, N. Y.—The Canton Electric Light & Power Co., it is stated, will put in at once a new engine and a new dynamo.

MANLIUS, N. Y.—Bids are asked until March 12 for furnishing the materials and for putting in a plant of about 1,000 incandescent lights, according to reports. The plant will be owned by W. J. Phillips.

TONAWANDA, N. Y.—The Niagara Falls Power Co. has been granted a franchise.

WEEDSPORT, N. Y.—The plant of the Weedsport Electric Light & Power Co. will be extended, and a new 150-HP. engine, etc., put in. Michael Grace will begin work, it is stated, about Feb. 1. Mr. Edwards is the owner of the plant.

WHITEHALL, N. Y.—Seymour Taylor, Glens Falls, N. Y., has been awarded the contract for the electric wiring for the state armory at this place, at $1,250.

NEWARK, N. J.—The People's Light & Power Co. has secured a franchise for furnishing light to North Arlington, and also for lighting the streets and highways in Bergen county to the north line of Union township. The capital stock of the company will be increased from $5,000,000 to $20,000,000, in view of the absorption of the Hoboken and Elizabeth electric light companies. A number of important improvements will be made to the newly acquired plants. P. N. Jackson, Pres.

SEA ISLE CITY, N. J.—Bids are asked until Jan. 23 for lighting the streets of this place with electricity, as stated in our advertising columns. In addition there is a considerable amount of private lighting. A. H. Sickler, Mayor, 516 Minor St., Philadelphia; J. T. Chapman, Clk.

MILLHALL, PA.—E. H. Welch, of Lock Haven, Pa., is making surveys for the proposed plant; the building will be 24 x 42 ft. S. T. Henderson, Houtzdale, Pa., is interested.

STEWARTSTOWN, PA.—The Adams County Construction Co., Gettysburg, Pa., has been awarded the contract for building a plant at this place, to cost about $11,000. The company has also a contract for electric work at Harper's Ferry.

NEW CASTLE, DEL.—A company is reported as being organized to build a plant to cost about $15,000.

BALTIMORE, MD.—Bids are asked until Jan. 25 for furnishing 1,000,000 duct ft. of conduit material for 1899, as stated in our advertising columns. Chas. E. Phelps, Jr., Ch. Engr. Electrical Comn.

WILLIAMSPORT, MD.—D. G. Adelsberger, Engr., 722 Pennsylvania Ave., Baltimore, Md., has submitted plans and estimates for a plant and water-works to cost $20,000. John H. Hoffman, Peter L. Lemen and Jos. L. Motter are on the committee.

RICHMOND, VA.—F. C. Todd, of the General Electric Co., 227 E. German St., Baltimore, writes us as follows in regard to the proposed water power development on the James River, which the Virginia Electric Ry. & Development Co. is at present preparing to make: The company is owned by Richmond and Baltimore capitalists. The first plant to be installed is one with a capacity of 8,000-HP., which will furnish power to manufacturing enterprises in Richmond and current for the lighting company and street railways. The most unique feature about this development is the fact that the power house will stand in the exact electrical center of the city and the longest transmission will not be over 1½ miles. The cost of this development will be about $100 per horse-power, which includes the cost of a duplicate steam plant throughout. The James River Construction Co. has been organized to construct the plant and do all the hydraulic work, and it is to this company at Richmond, that contractors and supply men should address their communications. Bids will probably be received about Feb. 1, as noted in our issue of last week.

MONTGOMERY, ALA.—Henry C. Jones, of Jones & Mosley, Elec. Engrs., is interested in a projected electric power plant on the Tallapoosa River, above Tallassee.

THIBODEAUX, LA.—G. U. Borde, 401 L. & L. & G. Bldg., New Orleans, La., is preparing plans for a plant, according to reports.

ATHENS, TENN.—W. R. Hall, Chattanooga, Tenn., has been awarded the contract for constructing a plant.

CAMBRIDGE, O.—The council has passed on its first reading an ordinance granting a franchise to a new company for lighting this place. Judge N. H. Barber may be addressed.

COLUMBUS, O.—The Columbus Edison Electric Light Co. has filed a certificate of increase of capital stock. It is understood that the company, now that the proposed consolidation plan is off, is going to make a fight against its competitors, and the above is the first move towards that end. With a capital stock of $300,000, an increase according to incorporation papers filed, from $258,000, it is the intention of the company to extend the capacity of its plant, put in new machinery, and in other ways improve its facilities.

MARION, O.—The council has awarded the contract for lighting the streets to the Marion Electric Light & Power Co., the company having had the contract for several years. Local papers state that the company will put in some new machinery.

QUINCY, MICH.—An election was held here Jan. 10 to vote on the question of issuing $5,000 on 5% bonds for a plant.

OTTAWA, ILL.—L. B. Merrifield & Co. have applied to the council for a franchise to do a general electric lighting business in competition with the Thomas Electric Light & Power Co. The council will definitely decide the question in February.

BOSCOBEL, WIS.—This place has voted to issue $9,000 in bonds for a plant. The council is reported as now considering bids.

OCONTO, WIS.—The question of building a municipal plant is being considered.

FONDA, IA.—An election will be held Jan. 23 to vote on the question of building a plant. R. F. Beswick may be addressed.

GILMAN, IA.—The question of building a plant is being considered, according to reports.

WILLIAMSBURG, IA.—H. E. Hull, Mayor, writes us that this town will install a plant in the spring. It will be operated either by a gas or by steam power; but this question has not yet been decided. Mr. Hull wishes to secure information at once from manufacturers of electrical machinery. J. P. Doherty, Chn. Lighting Com.; T. T. Osborn, Recdr.

ALEXANDRIA, MINN.—It is stated that the question of building a plant and water-works is being considered.

SLAYTON, MINN.—The council is considering the question of building a plant.

TOPEKA, KAN.—The W. M. Thompson Co., Sioux City, Ia., has been awarded the contract for furnishing a new 486-HP. engine for the plant, at $7,045.

CARTHAGE, MO.—Bids are asked until Jan. 17 for furnishing the machinery and for constructing the proposed plant. The plant will cost $25,000, as noted in our issue of Dec. 1. Owen Ford, Engr., 710 Security Bldg., St. Louis, Mo.; C. O. Harrington, Mayor.

HILLSBORO, TEX.—Geo. B. Peyton proposes to build a plant in connection with his ice factory. S. J. Hunter, Engr., Cleburne, Tex.

TACOMA, WASH.—John D. Rockefeller and other capitalists of New York are reported as interested in a proposed power plant at Everett. It will be used to supply power to the Everett & Monte Cristo Ry., 65 miles long; the Monte Cristo mines, paper mills, a light plant, etc. Surveys are now being made.

NEVADA CITY, CAL.—Bids are asked by the clerk of the town trustees until 8 p. m., Jan. 12, for furnishing 80 or more 25-c. p. incandescent lights, to run all night.

PALO ALTO, CAL.—It is probable that a plant of 1,000 lights will soon be built here. C. E. Moore, Consult. Engr., Santa Clara, Cal.

SANTA CLARA, CAL.—We are informed that the town is awaiting a report from C. E. Moore, Santa Clara, on the proposed plant. It has not been decided whether it will be gas or electric.

TWEED, ONT.—This place will soon be lighted by electricity, according to reports.

TEPIC, JALISCO, MEX.—It is stated that a company from the United States proposes to build a plant in this place. Population (1890), 12,000.

NEW COMPANIES.—Frank Adams Electric Co., St. Louis, Mo.; $25,000; Frank Adams, Fred. B. Adams, Louis N. Adams.

Minneapolis General Electric Co., Minneapolis, Minn.; $2,100,000; Lee, Higginson & Co., Bankers, Boston, Mass.; Stone, Webster & Co., Archs. and Engrs., Boston.

Electric Go. of America, Trenton, N. J.; $25,000,000; to acquire and operate electric light plants in different cities. It is said to be backed by the Widener-Elkins syndicate, which has formed a similar company acquiring and operating gas plants. J. E. Hayes, Camden, N. J.; Elmer Smalling, Philadelphia, Pa.

C. P. Power Co., Newark, N. J.; $200,000, of which $2,000 is paid in; Frank W. Roller, Geo. E. Snider, Frank W. Yates, New York.

Floriston Land & Power Co., San Francisco; authorized $300,000, $50,000 paid in; A. J. Hechtman, R. E. Wallace, H. H. Ferns, San Francisco; C. C. Crane, Decatur, Cal.; F. H. Bush, Vacaville, Cal.

United Lighting & Heating Co., Gloucester City, N. J.; $12,000,000, with $2,500 paid in; Edwin Hand, of Germantown, Philadelphia; John M. Devlin, Gloucester City.

Mitchell Electrical Co., Mitchell, S. Dak.; $15,000; W. N. Hallands, Wm. H. Smith, Frank Redford, J. L. Hannett.

BRIDGES.

ASHTON, R. I.—The Massillon Bridge Co., Massillon, O., has been awarded a contract, at $5,375, for constructing a connecting bridge at Ashton, for the towns of Cumberland and Lincoln.

NEW YORK, N. Y.—Information for intending bidders on the steel towers and end spans of the new East River bridge may be obtained by applying to the chief engineer of the New East River bridge commission, 84 Broadway, Brooklyn, as stated in our advertising columns. Smith E. Lane, Comr. and Secy., 51 Chambers St., New York.

TROY, N. Y.—Councilman Purcell has introduced a resolution for the construction of a steel bridge, to cost about $2,500, over the Wynantskill River, at Mill St.

PHILADELPHIA, PA.—Geo. S. Webster, Ch. Bureau of Surveys, has estimated the cost of the following proposed new bridges, to be constructed this year: For the retaining walls, abutments and superstructure of the bridge at 33d St., over the Reading Ry. and the New York Division of the Pennsylvania R. R., $180,000; at Lehigh Ave., under the New York Division of the Pennsylvania R. R., $65,000; at Wyoming Ave., over Frankfort Creek, $100,000; at 17th St., over the Reading Ry., $60,000; at 71st St., over the Philadelphia, Wilmington & Baltimore R. R., $25,000; at Sedgley Ave., over the Richmond Branch of the Reading Ry., $40,000; at Allegheny Ave., over the North Penn R. R., $20,000; at 57th St., over the West Chester & Philadelphia R. R., $20,000; to commence a draw bridge over the Schuylkill River on or near the line of Passyunk Ave., $40,000; at 52d St., under the Pennsylvania R. R., $46,000, and at 66th Ave., over the North Penn R. R., $4,000.

PITTSBURG, PA.—Plans have been prepared by the board of public works for a new bridge at 10th St. They include the retaining of the two end piers, giving a span of about 400 ft.; estimated cost, $260,000. These plans will soon be submitted to the war department, and if the government recommends a span of about 500 ft. and constructing new end piers, the cost would be about $400,000, according to reports. E. M. Bigelow Dir. Pub. Wks., has recommended appropriations for bridges as follows: The Point Bridge, $100,000; Wilmot St., over the railroad, $25,000; Heights Run bridge on Butler St., $110,000; South Main St., across Sawmill Run, $10,000; Bond St., across Negley Run, $15,000, and Lincoln Ave. bridge, across the Boulevard, $150,000.

NORFOLK, VA.—W. T. Brooke, Cy. Engr., writes us that the following bids were received Jan. 6 (postponement from Dec. 28), for constructing the substructure and superstructure of a steel highway bridge over Smith's Creek, between York St. and Atlantic City, advertised in Engineering News:

		Additional for stone masonry
Wrought Iron Bridge Co., Canton, O.	$56,650	$3,200
Brackett Bridge Co., Cincinnati, O.	74,898	3,500
Elmira Bridge Co., Elmira, N. Y.	56,000	.....
Nelson & Buchanan, Chambersburg, Pa.	65,674	.....
Groton Bridge & Mfg. Co. Groton, N. Y.	71,200	3,000
Variety Iron Works, Cleveland, O.	61,465	.....
F. A. Long & Co., New York	66,500	10,500
G. E. King Bridge Co., Des Moines, Ia.	61,990	*.....
King Bridge Co., Cleveland, O.	68,430	3,350
Youngstown (O.) Bridge Co.	63,275	2,500
McGuire & Hall, New York	64,874	1,000
Toledo Bridge Co., Toledo, O.	59,150	2,000
Penn Bridge Co., Beaver Falls, Pa.	69,750	.....
Champion Bridge Co., Wilmington, Del.	61,999	.....
Grant Wilkins, Atlanta, Ga.	64,500	4,000
Edgemoor Bridge Co., Wilmington, Del.	53,330	2,300

*$18 per cu. yd.

Note.—Bids complete, include brick piers and abutments.

WASHINGTON, D. C.—John Jacoby, Wilmington, Del., has been awarded a contract by the Columbian Ry. Co. for the construction of a double track steel bridge, 500 ft. long, across the eastern branch of the Potomac River, according to reports.

WASHINGTON, D. C.—The senate has passed a bill appropriating $100,000 towards the construction of the

Massachusetts Ave. bridge over Rock Creek and authorizing the commissioners to contract for the bridge at a cost not to exceed $225,000.

BROOKHAVEN, MISS.—The county commissioners received the two lowest bids Jan. 3, for constructing a steel bridge across the Hornochitto River, from the Southern Bridge Co., Birmingham, Ala., at $7,900 and the New Jersey Steel & Iron Co., Trenton, N. J., at $7,750.

GREENEVILLE, TENN.—The county court has decided that an iron bridge will be constructed across Nola Chucky River, where the Warrensburg road crosses. The court has also appropriated money for a wooden bridge across Lick Creek, according to reports.

CINCINNATI, O.—The city engineer will examine the Eighth St. bridge over Mill Creek, to consider the advisability of constructing new foundations.

BIG RAPIDS, MICH.—The Detroit Bridge & Iron Works, Detroit, Mich., has been awarded a contract for the construction of a steel bridge of three spans on stone abutments and stone piers, for the Grand Rapids & Indiana Ry. Co.

PLAINWELL, MICH.—The Grand Rapids & Indiana Ry. Co. proposes to construct a new steel bridge, with stone abutments, to cost about $18,000, over the Kalamazoo River, near this place, according to reports. Thos. Rodd, Ch. Engr., Pittsburg, Pa.

SAULT STE MARIE, MICH.—The Michigan Lake Superior Power Co. is required to construct a bridge over the canal at Maple St.

CHICAGO, ILL.—Bids will soon be asked by the board of sanitary trustees for the construction of the Chicago & Western Indiana R. R. bridge, on section L, to cost about $150,000.

SPRINGFIELD, ILL.—The council has adopted a resolution to construct a bridge on the Jacksonville Road, near West Grand Ave.

REDWOOD FALLS, MINN.—The county commissioners have appropriated $2,000 for rebuilding the bridge across Minnesota River, near Norwa Redwood.

ST. PAUL, MINN.—Bids are asked until Jan. 17 for the reconstruction and repair of the Sixth St. bridge. Matt. Jensen, Cy. Clk.

WAVERLY, IA.—Bids are asked by the county auditor until Jan. 24 for constructing a steel girder bridge over Cedar River, at Bremer Ave., according to reports.

GRAND ISLAND, NEB.—Arnold C. Koenig, County Surveyor, writes us that the county commissioners at their last meeting decided to submit the proposition for a new bridge over the Platte River, south of this place, to the voters, at the spring election. C. H. Menck, County Clk., informs us that the cost of the bridge will be about $8,000.

SANTA CRUZ, CAL.—A contract was awarded Dec. 23 to J. A. McMahon, at $3,745, for a bridge over Valencia Creek. E. Martin, County Clk.

OAKLEY, IDAHO.—Reports state that Henry Schodde, Jesse, Idaho, proposes to donate $3,000 toward constructing a bridge over Snake River at Starrh's ferry.

QUEBEC, QUE.—Bids are asked by the Quebec Bridge Co., Quebec, until March 1 (postponement from Jan. 2), for constructing a railway and highway bridge across the St. Lawrence River, as advertised in Engineering News, Oct. 6. Ulric Barthe, Secy.

CARADOC, ONT.—C. H. Lockwood, Clk., Mount Bridges, Ont., writes us that on account of an injunction served upon the county council against the construction of the proposed bridge over the Thames River, nothing will be definitely known until the January session of the council. Address F. B. Talbot, County Engr., London, Ont.

BUILDINGS.

GENESEO, N. Y.—The granaries of Belden & Co., and Ferrin Bros., in this city, were destroyed by fire, Jan. 4. Estimated loss, about $80,000.

NEW YORK, N. Y.—Plans have been filed by Andrew J. Kerwin, Jr., 316 West 88th St., for a 7-story brick flat and store building at the Boulevard and 102d St., to cost, $200,000. S. B. Ogden & Co., Archs., 954 Lexington Ave.; by W. W. Astor, 21 West 26th St., for two 5-story brick dwellings at 723 and 725 5th Ave., to cost $80,000. Clinton & Russell, Archs., 32 Nassau St.; by Wm. N. Hyne & Co., 274 De Graw St., for two 7-story brick flat and store buildings at 99th St. and the Boulevard, to cost $175,000. Neville & Bagge, Archs., 217 West 125th St.; by James Butler, 119 West 69th St., for a 10-story brick apartment building at the Boulevard and 70th St., to cost $500,000. Robert Maynicke, Arch., 725 Broadway.

NEW YORK N. Y.—Plans have been filed by the Seaboard Realty Co., 320 Broadway, for a 6-story brick flat building, at 1861 7th Ave., to cost $250,000. H. B. Milliken, Arch., 1845 7th Ave.; by Schmuck & Montag, for three 5-story brick flat buildings, on 3d Ave., near 166th St., to cost $55,000. Edward Wenz, Arch., 1491 3d Ave.

TROY, N. Y.—A fire in this city, Jan. 4, destroyed the furniture house of J. & H. Myers, 181 River St., and several adjacent buildings, causing a reported loss of about $80,000.

JERSEY CITY, N. J.—Plans have been approved and bids will soon be asked, according to reports, for the new free library building, to be erected at Jersey Ave. and Montgomery and Mercer Sts.,to cost about $120,000. Brite & Bacon, Archs., 111 5th Ave., New York.

NEWARK, N. J.—A. T. Hazen & Co., Boston, Mass., have been awarded the contract for furnishing and installing the laundry machinery in the new City Hospital building. John H. Ely, Arch.

PHILADELPHIA, PA.—Charles McCaul, 10 North 11th St., has been granted a permit for the erection of the new 2-story brick and stone law school building, 120 × 188.6 ft., for the University of Pennsylvania. Cope & Stewardson, Archs., 320 Walnut St.

PHILADELPHIA, PA.—A permit has been granted for the erection of a new grain elevator at the foot of Ann St., Delaware River, for the Philadelphia Grain Elevator Co.; estimated cost, $20,000.——Reports state that the Jefferson Medical College has purchased the site at 1010 and 1012 Sansom St., upon which will be erected a new hospital building. Jas. T. Windrim, Arch.——Plans have been completed for alterations to the old pier and additions to the ferry house and station of the Delaware River Ferry Co., to cost $50,000. H. K. Nichols, Ch. Engr., of Philadelphia & Reading Ry., 12th and Market Sts.

PITTSBURG, PA.—It is reported that the West Penn Hospital, of Pittsburg, will erect a $50,000 additional building in the spring.

VANDERGRIFT, PA.—J. E. Allison, Pittsburg, Pa., is making plans for a city building to cost $40,000. It will contain the fire department, lock-up, opera house and library.

WASHINGTON, PA.—The Hotel Main and the Levins Bldg., were destroyed by fire, Jan. 6. Reported loss, $90,000; insurance, $85,000.

WEST CHESTER, PA.—Reports state that the erection of a new stone building for the Westchester State Normal School, to cost $50,000, is projected.

WASHINGTON, D. C.—The district commissioners have decided to reject the bids received Nov. 26 for the erection of an isolating building for minor contagious diseases on the grounds of the Providence Hospital. The lowest bid then received was that of W. E. Spier, at $22,217, not including heating.——The building at G and 11th Sts., owned by Barber & Ross, has been damaged by fire, causing a total loss of about $80,000. The lost on the building was only $15,000, and the use of wire mesh instead of wooden lathes is thought to have prevented the loss from being greater.

ATLANTA, GA.—Grant Wilkins, 9½ Peachtree St., has been selected as architect for the new union station to be built in this city, according to reports, for the Nashville, Chattanooga & St. Louis and other railway systems. J. W. Thomas, Pres., Nashville, Tenn.

OPELIKA, ALA.—J. G. Beasley, Clk. of Circuit Court, Opelika, informs us that Lee county has a first-class court house but several years old, and that the issuance of bonds for the erection of a new building is not proposed, as generally reported. Chambers county, adjoining this, has been agitating the question.

ALEXANDRIA, LA.—Bids are asked until Feb. 1 for erecting a new parish jail to cost between $15,000 and $25,000.

NEW ORLEANS, LA.—Bids are asked until Jan. 23, for the erection of the Wm. T. Richards memorial hospital building. Edwin Marks, Secy., Bd. of Administration.

LOUISVILLE, KY.—It is reported that the special committee of the Fiscal Court has recommended the plans of Kenneth McDonald for the addition to the court house to cost about $50,000.

CHICAGO, ILL.—Bids are being received, according to reports, for the erection of a new high school building at Orchard and Center Sts., to cost about $135,000. Mr. Mundie, Arch.——Graham & Morris will soon erect a 4-story building at their docks at the end of Wabash Ave. to be used for steamship business; reported cost, $35,000. George Beaumont, Arch.

CHICAGO, ILL.—It is reported that J. Harley Bradley has bought the site at Fulton and Jefferson Sts., 150 × 170 ft., from Benjamin Rosenberg, and that a new $200,000 building will be erected thereon.

DECATUR, ILL.—Peter Halmbacher, W. H. Grindol and others are said to be interested in the proposed erection of a large coliseum building in this city similar to the one recently erected at Bloomington.

EVANSTON, ILL.—Reports state that the township board of education has decided to erect a new high school building, for which local architects will be asked to prepare plans; estimated cost, $50,000.

APPLETON, WIS.—Plans were adopted by the council, Jan. 4, for a new library and city hall building to cost about $22,000. The structure will be entirely of gray Bedford stone, and will be two stories in height. The plans adopted were a combination exterior by W. H. Holbrook, of Milwaukee, and interior by Herman Wildhagen, of this city.

STEVENS POINT, WIS.—The following bids have been received for the heating and ventilating of the court house: A. V. Fetter, Stevens Point, $1,238; Sohnes Heating Co., Milwaukee, Wis., $1,300; American Furnace Co., Milwaukee, Wis., $1,795; Eggleston & Redfield, Stevens Point, (accepted), $1,850.

MINNEAPOLIS, MINN.—Plans have been prepared, according to reports, for a 4-story apartment building to be erected on Mary Place, near 8th St., for I. R. Beery. H. W. Orth, Arch., 416 Bank of Commerce Bldg.

KANSAS CITY, KAN.—This city has voted, at a special election, to issue $75,000 in bonds to build a new high school building.

TOPEKA, KAN.—This city seeks permission from the state legislature to issue from $50,000 to $100,000 in bonds for the erection of a new city hall building.

ROCK SPRINGS, TEX.—Bids are asked by the commissioners of Edwards county, until Feb. 13, for reconstructing the court house of Edwards county, to be fireproof. W. A. Johnson, County Clk.

ELLENDALE, N. DAK.—Bids are asked until Feb. 16, according to reports, for the erection of a new building for the Industrial School.

ALBUQUERQUE, N. MEX.—Frank P. McClure, the opera-house builder, Toledo, O., has signed a contract to build a $25,000 opera house in this city next spring.

CHEYENNE, WYO.—Walter D. Pease, County Surveyor, Cheyenne, writes us that he does not see prospects for any large work for the coming year. Work on the post office building is progressing, but an unexpected strata of quicksand has required the construction of a grillage foundation at a much greater cost than at first estimated.

WATER-WORKS.

ATTLEBORO, MASS.—The question of putting in a new pump to cost about $15,000, at the South Attleboro station is being considered.

ARCADE, N. Y.—It is stated that the Cattaraugus & Wyoming Water Supply Co. is arranging to at once begin the construction of the proposed works. Geo. A. Ricker, Ch. Engr. Buffalo Traction Co., may be addressed.

BUFFALO, N. Y.—The Western Water Co. has been incorporated with a capital stock of $5,000 by John O. Adsit, of Buffalo, and others.

EAST HAMPTON (L. I.), N. Y.—The Home Water Co. has awarded a contract to the Artesian Well Drilling Co., New York, for drilling the necessary wells and for constructing a water tower for the proposed works. There will be required 362 tons of pipe, 14,000 lbs. of lead, etc. B. H. Van Scoy, Pres. and Gen. Mgr.

FULTON, N. Y.—The commission of appraisal of the works of the Fulton Water Co. has submitted its report fixing the price the city should pay for the purchase of the works. It is probable that an election to vote on the question of buying the works for $172,500 will be held soon. W. R. Hill, Engr. Water-Works, Syracuse, N. Y.; Wm. Wheeler, 89 State St., Boston, and Judge Chas. Andrews, from the commission. F. A. Gage, Chn. Water Com.

LANSINGBURG, N. Y.—The Hilton Bridge Co., Albany, N. Y., has been awarded the contract for furnishing the materials and for erecting the steel water tower for the new water-works for this place.

LOCKPORT, N. Y.—The water commissioners have recommended to the council that the city purchase an 8,000,000-gallon pump.

RENSSELAER, N. Y.—The question of securing a new water supply is being considered. The present supply is from the Hudson River and is furnished by a private company having a contract with the city. This contract has now expired.

ORCHARD PARK, N. Y.—The company that owns the Crystal Springs, near this place, is securing subscribers to take the water. If enough are secured the company will lay the necessary pipe, etc.

RHINEBECK, N. Y.—The Rhinebeck Water Co. has been incorporated with a capital stock of $1,000 by Wm. B. Meelch and A. G. Kinsley, of Harrisburg, Pa.; J. M. Johnson, of Millersburg, Pa., and others.

IRVINGTON, N. J.—Press reports state that the council has practically decided to purchase the works of the Irvington Water Co. for $50,000. The plant consists of between six and seven miles of pipe, together with all the appurtenances thereto. The work of construction was commenced in 1894, at which time a contract was made for a period of 25 years.

PLAINFIELD, N. J.—Geo. W. Rockfellow, Mayor, in his message to the council, has recommended the purchase of the works of the Plainfield Water Co.

BRADDOCK, PA.—This city has won the suit brought against it by the Penn Water Co. restraining the council from extending the works. It is reported that steps will be taken at once to extend the mains for a better supply in the 4th Ward.

CANONSBURG, PA.—Since the recent fire in this town a number of contractors have been securing information with a view to making estimates for works. Councilmen Grees, Chn. Com., and Jas. D. Little may be addressed.

PHILADELPHIA, PA.—The Quaker City Water Co. has been incorporated with a capital stock of $15,000, of which $1,500 is paid in, by R. T. James, 1326 Ritner St.; C. M. Phelps, W. C. Bird, 2601 Frankford Ave., and others, of Philadelphia.

PITTSBURG, PA.—Keeling & Ridge have submitted the lowest bid, at $68,775, for laying a 48-in. riveted steel force main from the Brilliant pumping station to the new Highland reservoir. The other bids were as follows: Cronin & O'Herron, $74,000; T. A. Gillespie, $74,940; Riter-Conley Mfg. Co., $81,943; James H. McQuade, $84,664; James McNeil & Bro., $82,000; Stratton & Lewis, $83,471; W. E. Howley, $73,697; Thomas McNally, $106,202.

BALTIMORE, MD.—Bids were received Jan. 11 for furnishing cast-iron water pipe, fittings, castings, etc., for use during the year. In all there will be required about 1,300 tons of supplies. W. L. Kenly, Ch. Engr. Bd.

BALTIMORE, MD.—Bids are asked by the Tuxedo & Embla Parks Water & Light Co. until Jan. 15 for furnishing the materials and for constructing works for supplying water to the Tuxedo and Embla Parks districts. D. G. Adelsberger, Engr., 722 Pennsylvania Ave., Baltimore; G. O. Wilson, Pres., 212 North Liberty St.

CHESTERTOWN, MD.—Wm. Shafer has submitted a report on the condition of the works of the Chestertown Water Co. A report states that the city will at once take steps looking towards the purchase of the works.

FREDERICK, MD.—The aldermen have decided to make Fishing Creek the source of the new water supply. Arrangements will be made so that the work may be completed by summer. The city is authorized to issue $35,000 in bonds for the improvements.

MACON, GA.—It is stated that the Macon Gas, Light & Water Co. will spend about $40,000 in building a standpipe of 850,000 gallons and in making other improvements.

CHATTANOOGA, TENN.—Robt. Hooke, Cy. Engr., has submitted estimates for municipal works to cost about $700,000. The committee is said to have adopted the report and to have recommended to the council that the city build the works. The legislature will soon be petitioned to grant the necessary authority.

BEREA, O.—By the decision of the circuit court this city was unable to hold an election Jan. 12 to vote on the question of issuing bonds for works. T. J. Quayle, Mayor; Edward Horn, Secy. Bd. Water Comrs.

CLEVELAND, O.—Local papers state that the director of public works has prepared a resolution authorizing the calling for bids for constructing a new pumping station on the lake front and Kirkland Ave. It will be 150 × 75 ft. and 80 ft. high, in addition to which there will be a boiler house, 60 × 171 ft. There will be four pumps of 25,000,000 gallons capacity each. Work will be begun early in the spring. Estimated cost, $400,000.

NEW ALBANY, IND.—Bids are asked by the Home Crystal Water Co. until Jan. 28 for constructing works, as stated in our advertising columns. Frank Schofield, Engr., New Albany; Peter Arlund, Pres., Equitable Bldg., Cincinnati, O.

BAY CITY, MICH.—E. L. Dunbar, Supt. Water-Works, will ask for bids at once for the purchase of a new boiler at the works.

CHEBOYGAN, MICH.—Bids are asked until Jan. 21 for furnishing the materials and for sinking a 10-in. well. Geo. N. Case, Cy. Clk.

ST. JOHNS, MICH.—The council is considering the question of increased water supply. Councilman F. M. Spaulding and C. C. Vaughan, of the water board, may be addressed.

BLOOMINGTON, ILL.—The Bloomington Water-Works Co. has applied for a new franchise, according to reports.

CHICAGO, ILL.—The law department of the city is preparing an ordinance authorizing the comptroller to take immediate steps for purchasing the works at Rogers Park.

LA SALLE, ILL.—G. Walker, Supt. Water-Works, has recommended to the council a number of improvements to the pipe lines.

OSHKOSH, WIS.—Prof. Floyd Davis, of Des Moines, Ia., has been engaged to make an examination of the water supply of this city.

ALLISON, IA.—W. F. Ray, Mayor, writes us that an election was called for Jan. 9 to vote on the question of building works. There is no doubt but that the vote will be in favor of the proposition. No plans and specifications have been ordered.

WELLINGTON, KAN.—W. A. Renn writes us that a petition is being circulated asking the mayor to call an election to vote on the question of issuing $100,000 in 20-year 4% bonds for new works, etc. The proposed supply will be from the river, 11 miles distant.

PRAIRIE GROVE, ARK.—The construction of works and a light plant is proposed, according to reports.

FLORENCE, COLO.—Bids are asked until Jan. 19 for constructing the proposed works, as stated in our advertising columns. (Postponement from Nov. 28.) Hiram Phillips, Consult. Engr., Oriel Bldg., St. Louis, Mo.; P. T. McGuire, Mayor. At the election Dec. 29 this city voted, by 128 to 9, in favor of constructing the works.

LEADVILLE, COLO.—The council has appointed Alfred Thielan and ex-Senator John Nowland to appraise the works of the Leadville Water Co., with a view to its purchase. The company has been furnishing water under a 20-year contract, which soon expires. This contract gives

the city privilege of purchase at its expiration. Two appraisers will also be appointed by the company and the four will select a fifth.

INDEPENDENCE, ORE.—F. R. Anson proposes to build works, at a cost of about $22,000, according to reports.

KETTLE FALLS, WASH.—J. J. Fuller, Cy. Clk., writes us that an election will be held Feb. 7 to vote on the question of issuing bonds for works.

KESWICK, CAL.—Local papers state that Frank Cadwallader, of Red Bluff, Cal., and E. Markwick, of Redding, Cal., are making estimates and preparing propositions for works to be submitted to the trustees.

OAKLAND, CAL.—Local papers state that the stockholders of the Contra Costa Water Co. and of the Oakland Water Co. have about decided to consolidate the two companies, they furnishing the water supply to this city.

SAN MATEO, CAL.—The owners of the San Mateo water-works are reported as considering the question of extending the works.

SHERBROOKE, QUE.—A. Hadrill, Secy. Fire Underwriters' Association, has recommended to the council that steps be taken to extend the main on Belvidere St. for a distance of about 3,000 ft.

CORNWALL, ONT.—Geo. S. Jarvis, Town Clk., writes us that it is proposed to put in a water-wheel so that the pumps may be operated by water instead of by steam. Nothing definite will be done before spring.

HINTONBURG, ONT.—F. J. Merrill, Deputy Reeve, writes us that this place voted Jan. 2 in favor of the by-law to provide money for the proposed works. The supply will be from the Ottawa River. The pumps are to have a capacity of 2,000,000 gallons a day. There will be 5½ miles of pipe, 45 hydrants, with elevated tank, with a capacity of 60,000 gallons. Population, 2,100. C. H. Keefer, Consult. Engr., Rockcliffe, Ottawa, Ont.

STRATFORD, ONT.—W. F. Van Buskirk, Cy. Engr., writes us that the city is negotiating with the Stratford Water Co. for the purchase of the works, property, etc. Valuation and report were made by Mr. Van Buskirk and lately presented to the council.

NANAIMO, B. C.—The question of having the supply furnished by the Nanaimo Water-Works Co. improved is being considered.

HONOLULU, H. I.—Bids are asked until Feb. 21 for furnishing a pumping plant of 200,000 gallons an hour, as stated in our advertising columns. Address the Hawaiian Consulate-General, 63 and 65 Wall St., New York.

LONDON, ENG.—Bids are asked by Andrew Moir, 120 Bishopsgate St., London, until noon, Jan. 13, for furnishing 18 miles of steel-riveted water pipe, to have a mean diameter of 30 ins. The pipe is to be made of steel plates, to range in thickness from ½-in. to 7-16-in. and ⅝-in. Mr. Moir's cable address is "Debris, London."

SEWERAGE.

FOXBORO, MASS.—Plans have been completed for a system at this place. J. J. Van Valkenburgh, Engr., South Framingham, Mass.

QUINCY, MASS.—Reports state that the board of sewerage commissioners will ask the council for an appropriation of $75,000 for further extensions to that part of the system at present contemplated.

LANSINGBURGH, N. Y.—The plans for the proposed sewer on 9th Ave. have been approved by the state board of health, according to reports. It is stated that work will begin in the spring.

NEWBURGH, N. Y.—The contract for the 1st St. sewer has been awarded to Dwyer & Sager, at $31,000. It is to be completed by Aug. 1.

SYRACUSE, N. Y.—This city contemplates the construction of sewers in several streets.——Geo. W. Dakin has been awarded the contract for furnishing materials and for constructing a 12-in. pipe sewer in Avery Ave., from Cayuga St. to Schuyler St.; and C. T. Hookway, the contract for furnishing materials and for constructing a 15-in. pipe sewer in McKinley Ave., from South Salina St. to the eastern terminus of McKinley Ave.

CAPE MAY, N. J.—It is reported that the council has asked the American Piping Co. to prepare plans for a new system.

MORRISTOWN, N. J.—This city is considering the question of building a system.

WEST HOBOKEN, N. J.—Jos. Lenahan has been awarded the contract, at $1,375, for constructing the Mountain Road sewer.

KINGSTON, PA.—The following bids were received by the sewer committee for the construction of a system: Donohue & O'Boyle, Scranton, Pa., $21,792; V. H. O'Hara, Scranton, Pa., $18,081; Blair & Kennedy, Carbondale, Pa., $15,258; E. H. Post, Wilkesbarre, Pa., $13,260; A. H. Coon, Kingston, $13,010; D. M. Rosser, Kingston, $10,168, awarded contract.

NORTH BRADDOCK, PA.—A committee, consisting of Harry N. Reid, James Anderson and John Maxwell, was appointed to confer with the Braddock council and make some arrangement for the disposal of its sewage.

PITTSBURG, PA.—Booth & Flinn have been awarded the contract for constructing sewers, paving, etc., in the 100 acres of land to be occupied by the Homewood Driving Park. About $300,000 will be spent in these and other improvements.

WILLIAMSPORT, PA.—Bids are asked until Jan. 16 for the construction of a brick storm sewer, 4 ft. in diameter and about 700 ft. long, upon the bed of Spring Run; from the west line of the Jacob Flock estate to Franklin St., in Franklin to East 4th St. to Basin St., and in Basin St. to Grafius Run. Also for the construction of a 15-in. pipe sewer about 100 ft. long in Court St., from 6th St. to Grafius Run. Geo. D. Snyder, Cy. Engr.; Theo. Coonman, Cy. Clk.

SPARTANBURG, S. C.—Bids are asked until Feb. 3 for furnishing and laying 16 miles of 24 to 8-in. sewer pipe, as stated in our advertising columns. J. L. Ludlow, Engr., Winston, N. C.; J. M. Elford, Cy. Clk.

EAST LIVERPOOL, O.—Bids are asked until Jan. 24 for furnishing seven miles of 12 to 4-in. sewer pipe, as stated in our advertising columns. F. H. Croxall, Secy., Sewer Comrs.

HAMILTON, O.—The council is again considering the question of building a sewer in Crawford Run, to cost about $40,000.

GREENSBURG, IND.—Press reports state that Dr. J. N. Hurty, Secy. State Bd. of Health, Indianapolis, has been investigating the question of having this place build a system.

SOUTH BEND, IND.—Bids are asked until Jan. 23 for building a 20 and 18-in. pipe sewer in several streets. L. A. Hull, Cy. Clk.

RANTOUL, ILL.—The question of building a system for this place is being considered.

GRANITE CITY, ILL.—It is stated that the council has decided to ask for bids for constructing a new system. Before bids can be asked, however, the question of issuing $40,000 in bonds for the improvement will have to be voted upon by the taxpayers.

OKMULGEE, IND. TER.—It is reported that bids will probably be asked about June 1 for a system to cost $4,500. H. H. Hendershot, Engr., Wichita, Kan.

DENVER, COLO.—Bids are asked until Jan. 16 for furnishing the material, supplies, labor, etc., required for the construction of the district sewers, their manholes, inlets and appurtenances, of the Capitol Hill Storm Sewer District No. 1. Certified check, $10,000. Estimated cost, $1,000,000. Samuel N. Wood, Pres. Bd. Pub. Wks.; Harvey C. Lowrie, Engr.

LONG BEACH, CAL.—Reports state that the committee on public works has submitted a report on plans and specifications for a system; estimated cost, about $25,000.

PHOENIX, ARIZ.—The question of issuing $265,000 in bonds for the purpose of establishing, building and equipping a water works and sewerage system, to be owned by the city, will be voted upon at a special election to be held Jan. 24.

YUMA, ARIZ.—Bids are asked until Jan. 23 for the construction of a sewer in this village. R. J. Duncan, Mayor; Geo. A. Duke, Recdr.

STRATFORD, ONT.—W. F. Van Buskirk, Cy. Engr., writes us that this city is considering the question of building a sewerage disposal plant this year.

GUADALAJARA CITY, MEX.—Reports state that Mason, Lewis & Co., Devonshire St., Boston, Mass., have for sale $500,000 worth of 6% gold bonds, for the State of Jalisco, issued for the purpose of enlarging the sewerage system and water-works of this city.

GARBAGE DISPOSAL—STREET CLEANING

ATLANTIC CITY, N. J.—The following bids were received by the council Jan. 3 for collecting and removing the garbage for one, two or three years: Mark Townsend, first year, $9,800; second, $9,900; third, $10,000, with an allowance of $1 per month if the city provides stabling. Benj. F. Leeds, first year, $9,700; second, $9,900; third, $10,200, with an allowance of $5 per year for stabling. A bid received from J. M. Johnson was rejected.

PHILADELPHIA, PA.—Bids are asked by the director of public works until Jan. 12 for street cleaning in the 5th and 6th districts for the year. The bids for these districts opened recently were rejected, on account of not being satisfactory. The contracts awarded for the other districts are as follows: 1st district, Edward H. Vare, Betz Bldg., $83,700; 2d district, Edward H. Vare, $144,989; 3d district, Daniel Dooley, 4835 Lancaster Ave., $43,900; 4th district, David McMahon, Germantown, Philadelphia, $134,750. Thos. M. Thompson, Dir. Pub. Wks.

SCRANTON, PA.—The American Reduction Co. has offered to build a crematory to cost $50,000, and to collect and destroy the garbage of the city for five years for $18,000 a year. Councilman Calpin, Chn. Com.

MONTREAL, QUE.—The following submitted bids for removing and incinerating the ashes of the city: T. Charpentier & Co., removing, $59,800 a year, incinerating, $10,000; Arcade Depatie, removing for five years, $48,000 the first year, and $500 additional for each succeeding year; incinerating, first year, $13,500; second, $13,550; third, $14,000; fourth, $14,500; fifth, $15,000. These terms were accompanied by conditions of bidders own, different from the specifications. L. H. Heneault, removing, $53,947; incinerating, $7,825. Alderman Gallery, Ames and Turner may be addressed.

STREETS AND ROADS

SPRINGFIELD, MASS.—Plans are being prepared for a boulevard 100 ft. wide, to extend from the junction of Water and Gardner Sts. to Forest Park, via South Main St. and the Connecticut River to Longmeadow. Chas. M. Slocum, Cy. Engr.

ALBANY, N. Y.—The council has passed laws to pave portions of Dove, Hamilton, Rose and Elizabeth Sts. and construct sewers in Trinity Place, Livingston and Clinton Aves.

BRIGHTON, N. Y.—The following bids were received by the state engineer, Albany, Jan. 9, for macadamizing the East Ave. Road, about 2½ miles long and 22 ft. wide: H. P. & W. A. Gillette, $8,200; Chambers & Casey, $10,200; Lauer & Hagaman, $10,650; Whitmore, Rauber & Vicinus, $10,790; W. H. Jones & Sons, $14,000, all of Rochester, N. Y.

NEW YORK, N. Y.—Bids are asked by the department of highways, 150 Nassau St., until Jan. 17, for asphalt paving on portions of 89th St., Sixth Ave. and intersections of the Boulevard and Manhattan St. Jas. P. Keating, Comr.

ROCHESTER, N. Y.—Whitmore, Rauber & Vicinus submitted the lowest bid Jan. 5 for paving on South Fitzhue St. with asphalt; estimated cost, $11,000. Chas. M. Beattie, Clk.

FLEMINGTON, N. J.—The county freeholders have awarded a contract to Robert A. Montgomery, Lambertville, N. J., at $17,640, for macadamizing about five miles of the Cranbury Turnpike.

HOBOKEN, N. J.—Lawrence Fagan, Mayor, has recommended that the council confer with the board of freeholders to urge the paving of the Paterson Plank Road, with Belgian block, to cost about $4,000.

PATERSON, N. J.—A hearing will be given Jan. 23 for the proposed improvement of North Second St. Thos. McLean, Cy. St. Comr.

CHESTER, PA.—A petition will be presented to the council for the paving of East Broad St., from Edgemont Ave. to Morton Ave., with sheet asphaltum.

PITTSBURG, PA.—The council has passed an ordinance to improve Diamond St.

PITTSBURG, PA.—Bids are asked until 1 p. m., Jan. 14, for grading, curbing and paving on Fremont St., and grading Thomas Ave., from Lincoln to Forest Ave., in a town near this city. Edeburn, Cooper & Co., Borough Engrs., 410 Grant St., Pittsburg.

LYNCHBURG, VA.—Bids are asked until Jan. 21 for paving with rubble stone portions of Madison St., Park Ave. and Grace St., about 18,500 sq. yds. L. P. Rodes, Cy. Engr.

PETERSBURG, VA.—This place is considering the question of street improvements, to cost about $50,000, according to reports. G. B. Gill, Cy. Auditor.

LOUISVILLE, KY.—Bids are asked by the board of public works until Jan. 16 for asphalt paving on Von Borries Ave., Hepburn Ave., East Broadway and Chestnut St.; estimated cost, $100,000.

CLEVELAND, O.—The council has adopted resolutions to grade, drain and pave with brick, portions of Sackett, Daisey and other streets. Howard H. Burgess, Cy. Clk.

FINDLAY, O.—Bids are asked until Jan. 19 for constructing sidewalks on East St. and Baldwin Ave. A. W. Ray, Cy. Clk.

TOLEDO, O.—Bids are asked until Feb. 6 for furnishing and constructing brick paving on Milburn Ave. and Monroe St. L. P. Harris, Cy. Clk.

DECATUR, IND.—Bids are asked until Feb. 16 for macadamizing about 5½ miles of the East Washington Road, in Washington township; estimated cost, $17,400. W. E. Fulk, County Surveyor.——W. E. Fulk, County Surveyor, writes us that a contract was awarded Jan. 5 to Miller & Williams, Marion and Decatur, Ind., for constructing the Decatur and Monroe macadam road, about five miles long, at $13,449, and the Washington macadam road, about seven miles long, at $20,898.

KOKOMO, IND.—Bids are asked until Jan. 30 for constructing 11,000 sq. yds. of brick paving and 5,000 lin. ft. of curbing, according to reports. Chas. R. Ford, Cy. Clk.

MANISTEE, MICH.—We are informed that the Manistee county road commissioners have been grading two miles of road at a cost of $5,000, on which the grades have been reduced from 20% to 5%. E. W. Muenscher, Cy. Engr.

LA CROSSE, WIS.—James McCord, Mayor, informs us that the proposed paving is being considered by the committee and will not be taken up by the council until early spring.

BUTTE, MONT.—Mayor Harrington and City Engineer Bickerback recommend paving portions of ten streets. Steps will be taken by the council this month so that the work may be done in the spring.

FAYETTEVILLE, ARK.—Bids are asked until Feb. 1 for macadamizing and curbing College Ave., a distance of about 2,700 ft. J. L. Cravens, Chn. Improvement Bd.

KANSAS CITY, MO.—An ordinance is before the board of public works for about five miles of paving on 12 streets and three alleys, with asphalt, brick and gravel; estimated cost, $146,867.

BRYAN, TEX.—H. G. Rhodes, Secy., writes us that the city will pave Main and intersecting streets, but has not decided on the material to be used; estimated cost, $15,000.

BOULDER, COLO.—The question of macadamizing Pearl St. is being considered, according to reports.

LOS ANGELES, CAL.—A petition has been presented to the council for the improvement of Grand Ave., from Jefferson St. to 1,133 ft. south of the railway.

OAKLAND, CAL.—Portions of First St. and B St. will be macadamized. J. W. Tompkins, Cy. Clk.

SAN JOSE, CAL.—The council will meet Jan. 16 to consider the proposed macadamizing of East Santa Clara St.

MANUFACTURING PLANTS.

FITCHBURG, MASS.—A fire at West Springfield, Jan. 3, damaged the machine room of Crocker, Burbank & Co.'s pulp and paper mill, causing a loss estimated at between $40,000 and $50,000.

LYNN, MASS.—E. E. Strout has been awarded the contract for erecting the new 2-story brick addition, 150 x 75 ft., to the General Electric Co.'s plant on Federal St.

MECHANICSVILLE, N. Y.—The Duncan Paper Co. is receiving estimates for the erection of an addition to its plant; estimated cost, $60,000.

OSWEGO, N. Y.—Reports state that if the citizens of this place will raise $5,000 as a bonus, the plant of the Oswego Boiler Works will be rebuilt.

PLAINFIELD, N. J.—It is reported that the Watchung Silk Co. has been organized, with a capital stock of $25,000, to manufacture silks and ribbons in this city. The mill will be located in Scheffiin's building on West Front St. Young & Bullock, Paterson, N. J.; H. C. Runyon, of Plainfield, and others are said to be interested.

CHESTER, PA.—Reports state that the erection of a large steel plant at this place is projected. Robert E. Ross, Common Councilman, may be addressed.

GREENSBURG, PA.—The plant of the new nut and bolt works has been destroyed by fire; estimated loss, $20,000.

LEBANON, PA.—The North Cornwall iron furnace, which was recently damaged by an explosion of hot metal, will have to be rebuilt.

PITTSBURG, PA.—The Wilson-Snyder Mfg. Co., according to reports, is looking for a site on which to erect a new plant for the manufacture of pumps and other machinery.

SHARON, PA.—W. H. Saunders, Hammond, Ind., is said to be chief promotor of a project to build a 4-mill tin plant at Sharon.

YORK, PA.—It is reported that a new silk mill will be erected in the west end of York. Capt. W. H. Lenius, Geo. S. Billmyer and J. W. Steacy, York; C. C. Kauffman, Columbia, Pa., and D. Ashley, Paterson, N. J., are said to be interested.

RICHMOND, VA.—The Virginia Glass Co., Alexandria, Va., according to reports, contemplates the erection of a factory in this city.

WHEELING, W. VA.—Reports state that the West Virginia Steel Co. has been chartered, with a capital stock of $1,000,000, and will soon erect large tin mills near here. George Hook, Geo. E. Stifel, W. A. Wilson, Chas. W. Franzheim and Frank G. Caldwell are the incorporators.

NASHVILLE, TENN.—A fire in the paint shop of the Nashville, Chattanooga & St. Louis Ry., Jan. 3, caused a loss of $20,000 to the building and of about $37,500 to rolling stock.

LIMA, O.—A fire in this city Jan. 6 destroyed the Lima Paper Mills, owned by the American Strawboard Co. Loss, about $125,000; insurance, $70,000.

SANDUSKY, O.—We are informed that a company for the manufacture of Portland cement near Sandusky is now in process of organization. A plant of some 600 barrels daily capacity is contemplated. Carl C. Curtis, 23 Union Ave., Allegheny, Pa., Engr.

DETROIT, MICH.—It is reported that plans are now being prepared for a new 3-story brick building, 80 x 300 ft., to be erected at Cass Ave. and Boston St., for the Continental Match Co.

EAST TAWAS, MICH.—Reports state that the erection of a beet sugar factory at this place is projected.

CHICAGO, ILL.—The Crane Mfg. Co., according to reports, contemplates spending about $500,000 in erecting an addition to the plant on Judd St. and improving its plant.

WILMINGTON, ILL.—The Wilmington Tin Plate Co. contemplates the erection of a tin plate plant at this place to cost about $150,000. Dr. William Dougall, D. Trevor Lewis and T. W. Jenkins, all of Joliet, Ill., are said to be interested.

LA CROSSE, WIS.—Reports state that the Segelke-Kohlhaus Mfg. Co. will erect a warehouse opposite its new plant on 2d and Cass Sts. soon. A. W. Barber, Arch.

ST. LOUIS, MO.—Hamilton-Brown & Co., shoe manufacturers, according to reports, contemplates the erection of a factory building in this city.——The Mound City Ice & Cold Storage Co., with $150,000 capital, contemplates the erection of a large cold storage plant at 9th and Branch Sts. George Heitzeberg, Geo. J. Kobusch, Zachariah W. Tinker and Louis Hoffmann are said to be interested.

LITTLE ROCK, ARK.—Reports state that William Wasell, representing the St. Louis Tile Works, expects to erect a plant in Arkansas, to cost about $400,000.

CHIHUAHUA, MEX.—The establishment of a steel foundry in this city is projected. Henry Creel, of Chihuahua, is said to be interested.

HAMBURG, GERMANY.—A fire in this city, Jan. 7, destroyed the Hamburg Chemical Co.'s factory; reported loss, 400,000 marks (about $80,000).

GAS PLANTS.

PENN YAN, N. Y.—Reports state that the Penn Yan Gas Co. will shortly begin the construction of iron works.

RED KEY, IND.—The gas pumping station owned by the Ohio & Indiana Pipe Line Co. was destroyed by fire Dec. 31, at a reported loss of about $100,000.

SANTA CRUZ, CAL.—The Santa Cruz Electric & Power Co. has decided to install a new gas engine, according to reports.

OAK PARK, ILL.—The Cicero Gas Co. has awarded a contract to the Riter-Conley Mfg. Co., Pittsburg, for constructing a steel gas storage tank, 28 ft. deep and 114 ft. wide; capacity, 500,000 cu. ft.

NEW COMPANIES.—United Lighting & Heating Co., Trenton, N. J.; $12,000,000; to manufacture, etc., gas and oil machines and appliances for the production of light, heat and power; Edwin Hand, Jr., and F. H. Macmorris, of Philadelphia; and John M. Devlin, of Gloucester City, N. J.

Carrollton Oil & Gas Co., Carrollton, O.; $10,000; D. O. Ruton, J. V. Roudebush, Edwin Ferrell, Oliver Allen, J. C. Ferrall.

Bellevue Gas Co., Bellevue, O.; $40,000; to manufacture gas; J. R. Lynn, J. C. Baxter, C. R. Callahan, W. E. Rooney, J. Degnan.

Kilgore & Harlem Oil & Gas Co., Harlem Springs, O.; $5,000; to drill for oil in Carroll, Harrison and Jefferson counties; W. A. France, Heber Harrison, H. J. Richards, J. T. Simmons, H. L. Stenger, J. W. Markley and David Nirrer.

Standard Gas Co., Memphis, Tenn.; $11,000; Henry Duffin, J. W. Wynne, Joe L. Ullathorne, Hunsdon Cary, H. J. Forsdick, J. M. Falls and J. P. Gentry.

MISCELLANEOUS CONTRACTS.

WHARF.—Fort Barrancas, Fla.—Bids are asked until Jan. 31 for constructing a wharf. John Simpson, Ch. Q. M., U. S. A., Atlanta, Ga.

SUBWAY.—Cairo, Ill.—A proposition has been submitted to the council to construct a subway through Cross levee at Sycamore St.

PIER.—Hoboken, N. J.—The Hamburg-American Steamship Co. has purchased 150 ft. of water front and will construct a double-deck pier.

BONDS.—Bound Brook, N. J.—Bids are asked until Jan. 16 for the purchase of $15,000 of 4% bonds, according to reports. E. H. Casterlin, District Clk.

DREDGING.—St. John, N. B.—Reports state that the harbor will be dredged to a depth of 30 ft. at low water, in the spring. Address Alderman MacRae.

PILING, ETC.—Boston, Mass.—Bids will soon be asked by the harbor and land commissioners for constructing piling protection for the new state pier, at South Boston.

STEAM LAUNCH.—San Diego, Cal.—Bids are asked until Jan. 28 for furnishing a steam launch for the San Diego barracks. J. M. Marshall, Ch. Q.-M., San Francisco, Cal.

TELEPHONE WORK.—Cloverport, Ky.—Reports state that F. R. Lord, of the Ohio Valley Telephone Co., Louisville, Ky., is arranging to install a telephone exchange, at this place.

HARDWARE, ETC.—New York, N. Y.—Bids are asked by the department of correction, 148 East 20th St., until Jan. 19, for furnishing iron, hardware, etc. Francis J. Lantry, Comr.

ENGINEERS' SUPPLIES, ETC.—New York, N. Y.—Bids are asked by the department of public charities, East 26th St., until Jan. 16, for furnishing engineers' supplies, plumbing material, etc.

TELEPHONE CABLE.—Ashland, Wis.—It is reported that the telephone company proposes to construct a submarine cable about 3½ miles long, from Bayfield to La Pointe, across North Channel.

JETTY, ETC.—Atlantic City, N. J.—A petition has been presented to congress for deepening the inlet and bar and constructing a jetty; estimated cost, $500,000. Warren Somers, Secy. Citizens' Com.

STEEL SHRAPNEL.—Washington, D. C.—Bids are asked by the navy department until Jan. 18 for furnishing 2,800 8-in. cast-steel shrapnel, without fuses. Chas. O'Neil, Ch. Bureau of Ordnance.

DRY DOCK.—Philadelphia, Pa.—It is reported that the William Cramp & Sons' Ship & Engine Building Co. has about completed plans for the construction of a dry dock about 700 ft. long, at Kensington.

CONDUITS.—Troy, N. Y.—Alderman Kimloch has presented a resolution to have the city engineer prepare plans for conduits to place the wires underground, on River St., between Adams St. and the city line.

STEAMBOAT.—Philadelphia, Pa.—The Baltimore, Chesapeake & Richmond Steamboat Co. has awarded a contract to Neafie & Levy, Philadelphia, for constructing a passenger and freight steamer, speed 22 knots per hour.

DRAINAGE WORK.—Chipping Norton, England.—Bids are asked by the council until Jan. 31 for certain drainage work, partly within and partly without the borough of Chipping Norton, according to reports. Thos. Mace, Town Clk.

ENGINEER AND DRAFTSMAN.—Eaton, O.—Bids are asked by the county commissioners until 12 m., Jan. 14, for furnishing the material and making maps and plots to appraise the real estate of the county. W. A. Eidson, County Audr.

TELEPHONE WORK.—Cleveland, O.—Reports state that the United States Telephone Co. of Cleveland, proposes to make arrangements with the local company for the construction of a line between Cleveland and Youngstown, to be completed by May 1.

TELEPHONE WORK.—Chattanooga, Tenn.—J. W. Hunter, Jr., Secy. and Treas., East Tennessee Telephone Co., Nashville, Tenn., has completed arrangements for the construction of a telephone line to Dunlap from this city. A line will also be constructed from Morristown to Bristol, Tenn.

TELEPHONE WORK.—Medina, O.—The Central Union Telephone Co. is preparing to rebuild its exchange at once and put in a new and larger switch board; also to make connections with South Leroy, Lodi and other towns in the county, according to reports.

WHARVES AND DREDGING.—Honolulu, H. I.—Bids are asked by the navy department until Feb. 1 (postponement from Jan. 20), for constructing wharves, excavating slips, etc., at the coaling station. R. R. Bradford, Ch. Bureau of Equipment, Washington, D. C.

GRAVITY COAL WHARF.—Port Johnston, N. J.—Bids are asked by the Central R. R. Co. of New Jersey, until Jan., 16, for constructing a gravity coal shipping wharf at this place, as stated in our advertising columns. J. H. Thompson, Ch. Engr., Jersey City, N. J.

TEAMING, ETC.—Canton, O.—Bids are asked until 12 m., Jan. 12, for furnishing teams and tools and unloading about 800 carloads of slag, cinder and dirt, from off the cars of the Cleveland, Canton & Southern R. R. Louis N. Ley, Cy. Clk.; L. E. Chapin, Cy. Engr.

TELEPHONE WORK.—Denver, Colo.—The Colorado Telephone Co. proposes to construct several new lines this year, namely, a line from La Junta to Pueblo; from Sedalia to Castle Rock; two lines by way of Central City and Georgetown, to Leadville; between Aspen and Glenwood.

TOWING DECK SCOWS.—New York, N. Y.—Bids are asked by the department of street cleaning, 346 Broadway, until Jan. 20, for towing loaded deck scows from the several dumps of the boroughs of Manhattan and Bronx, to Riker's Island and return. James McCartney, Comr.

TELEPHONE LINE.—Brazoria, Tex.—The Alvin & Angleton Telephone Co. proposes to construct a line from Angleton to Brazoria, a distance of about 12½ miles, and from Brazoria to Columbia, a distance of eight miles; estimated cost, $1,000. S. J. Bush, Alvin, Tex., may be addressed.

DRY DOCK.—Algiers, La.—Reports state that the bids received by the navy department Nov. 30 for constructing a combined floating and graving steel dry dock will probably be rejected. Congress will be asked either to grant additional money to enable a better dock to be built or new bids will be called for.

RIVER WORK.—Buffalo, N. Y.—The council has passed a resolution to improve the Buffalo River and construct necessary bridges, etc., between Hamburg St. and the easterly city line, and Casnovia Creek, between the Buffalo River and Casnovia St.; estimated cost, about $700,000. F. V. E. Bardol, Cy. Engr.; Frank W. Gethoefer, Cy. Clk.

there will be 110,000 cu. yds. of filling, including about 40,000 cu. yds. of gravel for the slopes. On this basis the highest bid amounts to $98,100, and the lowest $78,195: H. P. Nawn and N. S. Brock, culvert, $2,400; filling, etc., 87 cts. a cu. yd.; B. F. O'Connell, $2,300 and 79 cts., respectively; Simon J. Donovan, $2,386.24 and 69½ cts.; John W. Hensby, $2,295 and 69 cts.

DRAINAGE DITCH.—Burlington, Ia.—M. P. Shorts, County Audr., writes us that the following bids were received Jan. 4, 1899, for constructing a drainage ditch:

Bidder.	A cu. yd., cts.
S. E. Gates, Oakville, Ia.	12.5 and 15
Carl Nels, Burlington, Ia.	15.5
Cameron, McManus & Joyce, Keokuk, Ia. (accepted)	9.75
Ball & Cain	9.9
F. C. Edwards, Oakville, Ia.	12.49
B. A. Waldin, Burlington, Ia.	12.5
James Kelley & Co., Burlington, Ia.	15
E. D. Webster, Dubuque, Ia.	14.5
N. S. Young, Burlington, Ia.	14.25

CEMENT AND GRAVEL.—Mobile, Ala.—Maj. W. T. Rossell, U. S. Engrs., opened the following bids Dec. 23 for furnishing cement and gravel at Fort Morgan, Ala., as advertised in Engineering News: Atlas Cement Co., New York, $2.17 a bbl. for 12,000 bbls. Atlas cement; A. C. Danner, Mobile, $2.14 a bbl. for Lagerdorfer cement, and $2.18 a cu. yd. for 10,000 cu. yds. of gravel; W. Chase, Spotswood, Mobile, $2 a cu. yd. for gravel; Fred. Visscher, Flomaton, Ala., $2.14 a cu. yd. for gravel; Edward K. Chamberlin, New York, $3 a cu. yd. for 10,000 cu. yds. of broken stone.

GARBAGE WAGONS.—Atlantic City, N. J.—The Sanitary Committee has contracted with John W. Clark for six new garbage collecting wagons, at a reported cost of $285 each.

ELECTRIC STREET LIGHTING.—Camden, N. J.—C. C. Southard, Chn. Lighting Com., writes us that the following bids were received Dec. 29 for a 5-year contract for street lighting: Camden Lighting & Heating Co., arc lights, overhead, 33 cts. a night each; underground, 45 cts.; incandescent, overhead, 5½ cts.; underground, 8 cts.; Wm. Moore and C. E. Wilson, Philadelphia, arc lights, 30 cts. and 50 cts., and incandescent lights, 6 cts. and 10 cts. a light a night, respectively, for overhead and underground wires.

MACADAM ROAD.—Norwood, O.—J. A. Stewart, Village Engr., 517 Johnston Bldg., Cincinnati, O., informs us that the following bids were received Jan. 7, for constructing a half-mile of macadam road; the successful bidder is to keep the road in repair for five years:

Bids Received at Norwood, O., Jan. 7, 1899, for Constructing a Half-Mile of Macadam Road.

Quantities.		Frank Folz, 134 Court St., Cincinnati.	John Snyder, Norwood.	L. Drach, Sinton Bldg., Cincinnati.	A. J. Henkel & Bro., Bodman Bldg., Cincinnati.	John Trapp, Newport, Ky.
Grading	20,000 cu. yds.	$0.16½	$0.18	$0.17½	$0.20	$0.17
Broken stone	4,200 " "	1.75	1.61	1.57	1.75	1.60
Masonry	100 " "	3.50	4.00	2.50	3.50	3.00
Gravel	1,000 " "	.70	1.00	1.05	1.50	1.10
Sod gutter	3,000 sq. yds.	.08	.10	.08	.20	.09
Limestone paving	50 " "	.75	.80	1.00	.75	.65
Crossing stones	500 lin. ft.	.45	.40	.40	.50	.40
24-in. pipe	100 " "	1.00	1.25	1.00	1.00	1.10
18-in. pipe	200 " "	.50	1.00	.60	.75	.60
12-in. pipe	500 " "	.25	.40	.30	.40	.30
Manholes	3 each	25.00	25.00	20.00	20.00	20.00
Inlets	6 "	33.00	35.00	35.00	15.00	38.00
Rolling	40,000 sq. yds.	.03	.04	.03	.03½	.03
Total		$14,001	$14,712	$13,724	$16,088	$13,891

ALTERATION TO ENGINES.—London, England.—Bids are asked by the clerk of the London county council, County Hall, Spring-Gardens, S. W., until Jan. 24, for converting four single-cylinder beam pumping engines to triple-expansion engines, etc., at the Crossness outfall, in the parish of Erith, County of Kent, according to reports.

TELEPHONE WORK.—Mobile, Ala.—Reports state that Jas. A. Wotton, Engr., and D. C. Sims, Supt., Southern Bell Telephone & Telegraph Co., were in this city Jan. 2 to make arrangements for the equipment of the Mobile exchange, including the enlargement of the local switchboard, material and cables for the construction of additional lines.

FIRE APPARATUS.—Los Angeles, Cal.—The board of public works has received the following bids for fire apparatus: Hawley, King & Co., two hook and ladder trucks, at $2,000 each, and seven combination hose wagons and chemical engines, at $1,800 each; R. S. Chapman, hook and ladder trucks, at prices ranging from $2,100 to $2,250, with a deduction of $75 if two are purchased; chemical engines, ranging from $1,880 to $1,990, for four different styles; Electrical Machinery Co., trucks, $1,800, with $150 deduction, if without rear steering gear; chemical engines, at $1,250 each; Fire Extinguisher Co., trucks from $2,005 to $2,840; chemical engines from $1,870 to $1,995.

TUNNELS.—Los Angeles, Cal.—The board of public works received the following bids Dec. 27, for constructing the Broadway and Third St. tunnels. Broadway tunnel, from California St. to Bellevue Ave.: Conrad Scheerer & W. E. Thornton, $82,735; Ramish & Marsh, $70,990; Edward & Beyrle, *$66,909; C. Leonardt, $72,000; George Rheinschild, $74,000; French & Reed, $87,500; Mathis & Haupt, $74,993; Charles Stansbury, $82,500. Mixed bids: A. M. Chaffey, $69,500 and $70,400; Alcatraz Asphalt Co., $71,897 and $75,197; John M. Gardiner, $72,250 and $78,940. Third St. tunnel: C. L. Powell, $88,449; eorge Rheinschild, $92,990; C. Leonardt, $96,000; French & Reed, $97,800; Charles Stansbury, $104,600; Edward & Beyrle, $88,900; Conrad Scheerer & W. E. Thornton, $101,375. Mixed bids: A. A. & C. A. McDonell, $94,370 and $98,000; A. M. Chaffey, $88,796 and $89,797; John M. Gardiner, $95,800 and $102,740; Alcatraz Asphalt Paving Co., $106,746 and $118,143; Robert Dewar & Co., $91,333 and $93,333. *Accepted.

CONTRACT PRICES.

CULVERT.—Boston, Mass.—The following bids were received by the street department for building a culvert and cutting, grading and filling a section of the Columbia Road between Mercer St., South Boston, and Mt. Vernon St., at Cow Pasture, and an extension of the culvert under the N. Y., N. H. & H. Ry. The grading will be from the line of the railway bed into the marshes of old harbor at irregular distances, ending at Mt. Vernon St., at a width of about 350 ft., with a beach slope of about 120 ft., while at Mercer St. it will be about 80 ft. wide for a short distance, continuing with a stretch at 40 ft. wide and a slope sufficient to protect the roadway. It is estimated that

WELSBACH STREET LIGHTS.—Syracuse, N. Y.—The common council awarded a 5-year contract Dec. 27 to the Welsbach Street Lighting Co. of America for 1,000 single Welsbach lights, at $20 a night. Local papers state that these lights will replace 300 of the 900 electric arc lights in residence streets.

PIPE SEWERS.—Scranton, Pa.—The following bids were received in councils Jan. 5, for constructing a lateral sewer in Von Storch Ave. and Honesdale St.: V. H. O'Hara, $1.30 a lin. ft., complete; extra basins, $90 each; extra manholes, $35; extra house connections, 45 cts. a lin. ft. Donohoe & O'Boyle, $1.57 a ft. complete; extra basins, $95; extra manholes, $33; extra house connections, 40 cts. a lin. ft. Ed. H. Post, $1.49 a ft. complete; extra basins, $80; extra manholes, $45; extra house connections, 40 cts. a ft. M. J. Gibbons, $1.57 a ft. complete; extra basins, $80; extra manholes, $50; extra house connections, 75 cts. a ft. P. F. O'Hara, $1.44 a ft. complete; extra basins, $85; extra manholes, $35. T. F. Gannon & Co., $1.44 a ft. complete; extra basins, $85; extra manholes, $35. Length of sewer, 1,015 lin. ft., of 8, 10 and 12-in. pipe; average depth, 10 ft. The price bid per lineal foot includes the building of 1 basin, 6 manholes and 24 house connections (about 384 lin. ft). Joseph T. Phillips, Cy. Engr.

WATER PIPE.—Binghamton, N. Y.—The following bids were received by the board of water commissioners for furnishing 16,000 ft. of 6, 8 and 12-in. cast-iron water pipe: M. J. Drummond & Co., 192 Broadway, New York, $16.55 a ton (awarded contract); Warren Foundry & Machine Co., 160 Broadway $18.70; Donaldson Iron Co., Emaus, Pa., $16.91; Buffalo Cast-Iron Pipe Co., Buffalo, $18.25. McNeal Pipe & Foundry Co., Burlington, N. J., $17.40; Jackson & Woodin Mfg. Co., Berwick, Pa., $17.50.

INDUSTRIAL NOTES.

A. H. MATHIAS & CO., Allegheny, Pa., dealers in blue printing materials, will move to new quarters in the Thos. Carlin Building, Lacock and Sandusky Sts.

THE AMERICAN PIPE & FOUNDRY CO., Chattanooga, Tenn., which also owns and operates plants at Bessemer, Anniston and Bridgeport, Ala., and South Pittsburg, Tenn., is reported as to double the capacity of its plant at Bessemer and to remove its general offices from Chattanooga to Birmingham, Ala.

THE CHAPMAN VALVE MFG. CO., Indian Orchard, Mass., has opened a branch office at 40 North Seventh St., Philadelphia, where it has a stock of gate valves for water, high and low pressure steam, gas, oil, ammonia, air and brine. The company also has offices in Boston, Chicago, New York and St. Louis.

THE COMMON SENSE RAIL-JOINT CO., Mr. W. E. Dorwin, Mgr., 304 Tacoma Bldg., Chicago, advises our representative that it has an order and has shipped a quantity of common sense rail-joints to Australia; also that the joint is being tested by a number of the leading railways and that very favorable reports have been received.

MR. CHAS. H. EDWARDS, formerly a junior partner in the firm of Jos. Edwards & Co., 414 Water St., New York, manufacturers of hydraulic dredging machinery, pumps, etc., has opened an office as a manufacturer's agent at 39 and 41 Cortlandt St., in that city, and will handle bolts, screws, belting, shafting, iron and steel, castings and forgings, steam engines and boilers, etc.

THE PITTSBURG REDUCTION CO., Pittsburg, is reported to have an order for 180 miles of aluminum wire for the Standard Electric Co., San Francisco, Cal., which is building a power plant in the Cascade Mountains. It is said that the wire will weigh about 240,000 lbs. and will cost about $60,000. The company also has an order from Belgium, according to press reports, for 1,540,000 lbs. of aluminum for use in making military equipments.

THE AULTMAN & TAYLOR MACHINERY CO. Mansfield, O., manufacturers of the Cahall water tube boiler, has opened an office in Havana, Cuba, in charge of Mr. Manuel J. Martinez, M. Am. Soc. M. E., as Resident Agent. A special effort will be made to introduce the vertical type of Cahall boiler into the sugar industry of Cuba and Porto Rico. The business will be carried on under the name of M. J. Martinez, Consulting and Contracting Engineer.

THE VULCAN IRON WORKS CO., Toledo, O., recently received an order for a "Giant B" 70-ton steam shovel from the Grangesberg Stock Mining Co., Grangesberg, Sweden, for use in mining surface iron ore. The latter company recently sent a committee of four to this country to investigate American methods of cheap mining, especially in the Massaba country, near Duluth, Minn., where ore is being taken out at not more than 1½ cents a gross ton, it is stated, the cost in Sweden heretofore being from 20 to 25 cts. a ton to get the ore on cars.

F. L. SMIDTH & CO., 66 Maiden Lane, New York, announce that they have instituted suit against the Booneville Cement Co., of Siegfried's Bridge, Pa., for infringement of U.S. Patent No 548,115, of Oct. 15, 1895, for what has become known as the "Tubemill." All other infringers will be similarly dealt with without further notice. ——The firm has the contract to supply the Smidth ball-mill and the Davidsen patent tubemill, to be used in pulverizing the clinker, for the new plant of the Lawrence Cement Co., at Siegfried's Bridge, Pa., which will have a daily capacity of 1,200 bbls.

THE GENERAL ELECTRIC CO., Schenectady, N. Y., has decided to widen the scope of its Foreign Department in view of the importance which our recent foreign acquisitions and our improved relations with foreign countries will give to our commerce, especially in the field of electrical development. The company has appointed Mr. W. J. Clark to the position of General Manager of this department, with headquarters in New York, and Mr. D. Mazenet, who has held the position for the past five years, has been appointed Managing Director of the Mexican General Electric Co., with headquarters in the City of Mexico.

THE BABCOCK & WILCOX CO., New York, report that it has an order from Westinghouse, Church, Kerr & Co. for what is said to be the largest stationary boiler order ever placed. The order is for 60 Babcock & Wilcox forged steel type boilers of 520 HP. each, to be capable of carrying 200 lbs. steam pressure and to supply steam for compound condensing engines of a nominal aggregate of 64,000 HP. The boilers are for the power plant which the Westinghouse Electric Co. has contracted to build for the Third Ave. R. R. Co. at 218th St. and the Harlem River, which is to be constructed by Westinghouse, Church, Kerr & Co.

THE AMERICAN STEEL & WIRE CO., of New Jersey, is the name of a new corporation that will be formed by the consolidation of the present American Steel & Wire Co., Washburn & Moen Mfg. Co., Worcester, Mass., and Waukegan, Ill.; Worcester Wire Co., Worcester, Mass.; Cleveland Rolling Mill Co., Cleveland, O.; Newcastle Wire Nail Co., Newcastle, Pa.; Pittsburg Wire Co., Pittsburg; Cincinnati Barbed-Wire Fence Co., Cincinnati; Laidlaw Bale & Tie Co., Joliet, Ill., and Kansas City, Mo.; Consolidated Barb-Wire Co., Lawrence, Kan., and Joliet, Ill.; Newburg Wire & Nail Co., Newburg, N. Y.; Oliver & Snyder Steel Co. and Oliver-Wire Co., Pittsburg, and several other companies. The company will be capitalized at $90,000,000, of which $40,000,000 will be preferred and $50,000,000 common stock. Mr. John W. Gates, formerly President of the Illinois Steel Co., has been elected President of the new company.

THE INTERNATIONAL AIR POWER CO., 253 Broadway, New York, is reported to have completed negotiations for the purchase of the Rhode Island Locomotive Works, Providence, R. I., which will be used to manufacture appliances for the New York Auto-Truck Co., New York, the incorporation of which was noted under Industrial Notes in our last issue. The Rhode Island Locomotive Works will continue to build steam locomotives, it is said, and in addition, compressed air locomotives for suburban railways, now run by steam, will also be manufactured. The first named company has also absorbed the American Wheelock Engine Co., Worcester, Mass., which has an order for 250 auto-trucks to cost $500,000, for the New York Auto-Truck Co. The foundry work now done in Worcester will be transferred to Providence, and about 1,200 men will be employed. Among those said to be interested are Mr. Jos. H. Hoadley, of New York, acting for Mr. Joseph Leiter, of Chicago; the Rothschilds, of England; the Cramps, of Philadelphia, and others.

THE LINK-BELT MACHINERY CO., Chicago, during the year 1898, ran its plant day and night for seven months, and full time for the balance. Among contracts filled were the following: Producers' Cotton Oil Co., Yazoo City, Mich., complete power transmission machinery, link-belt elevators (2), and conveyors; Hoosac "B" Elevator, Boston, grain elevator machinery; Chicago Virden Coal Co., Virden, Ill., 100-K-W. dynamo, engine, switchboard, and 8 link-belt chain, breast mining machines; McCormick Harvesting Machine Co., Chicago, sand handling conveyors for its foundry; Tuscaloosa Wadding Co., Tuscaloosa, Ala., wadding elevator; Colorado Fuel & Iron Co., Sopris, Colo., large coal conveyor, used in connection with its coal washer; Stineman Coal & Coke Co., South Fork, Pa., engine, 100-K-W. dynamo, switchboard, and 10-ton 80-HP. locomotive; Mandell Bros., Chicago, merchandise elevator, extending eight floors; National Malleable Castings Co., Chicago, sand handling conveyors; Clearfield Coal Co., Tyler, Pa., 150-K-W. dynamo, two 60-HP. locomotives, switchboard, and three low link-belt mining machines; Albert Schwill Malting Co., Chicago, coal handling conveyors for storage room and boilers; Chicago City Ry. Co., Chicago, coal elevator; Summit Coal Co., Linton, Ind., boiler, engine, 100-K-W. multipolar dynamo, switchboard, and a link-belt mining machine; Coxe Bros & Co., Chicago, electric coal scrapers; Consolidated Coal Co., St. Louis, Mo., 100-K-W. dynamo, switchboard and 10-ton 26-in. gage locomotive; Northwestern Gas & Coke Co., Chicago, complete system of hog-conveyors; University of Illinois, Champaign, Ill., coal and ashes handling machinery; Patton Coal Co., Patton, Pa., 100-K-W. dynamo, engine and ten link-belt mining machines; Julius Knack, Detroit, Mich., retail coal pocket conveyors; Morrisdale Coal Co., Morrisdale Mines, Pa., engine, 100-K-W. dynamo, 10-ton 80-HP. locomotive; American Glucose Sugar Refining Co., Waukegan, Ill., charcoal filters; Chase Elevator Co., Chicago, machinery for Chicago & Grand Trunk Ry. grain elevator at Elsdon Station; Wisconsin Grass Twine Co., St. Paul, Minn., conveyor for handling hay; Deering Harvester Co., Chicago, sand elevator; Frankfort Chair Co., Joliet, Ill., rope drive, and Paterson & Busby, Memphis, Tenn., log haul.

NEW COMPANIES.—North Shore Transportation Co., Boston, Mass.; $50,000; commencing with $1,000; to run a line of passenger steamships between Boston and the Merrimac River; Wm. M. Stewart, J. M. Walker, J. M. Wales, A. C. Stewart, and A. R. Torrey, all of Boston.

Champion Mfg. Co., Rocky Hill, Conn.; $5,000, commencing with $1,000; to manufacture goods of metal, wood, leather, etc.; F. C. Warner, F. E. Holmes, Rocky Hill; M. S. Tracy, Glastonbury, Conn.; H. J. Cuthbert, New York.

Perry Electric Co., Peoria, Ill.; $2,500; to make an electrical signal telephone; N. U. Perry, R. E. Seymour, D. R. Chapman.

United States Blue Print Paper Co., Chicago, Ill.; $2,500; to manufacture sensitized paper, inks, etc.; A. Cottell, D. F. Matchett, M. C. Allen.

Rhode Island Copper Co., Houghton, Mich.; $2,500,000, commencing with $800,000; Thomas F. Mason, T. H. Mason, New York; Chas. J. Devereaux, T. H. Meserve, John W. Weeks, Boston; W. R. Todd, Morristown, N. J.; S. B. Harris, Hancock, Mich.

B. H. & P. Mfg. Co., Minneapolis, Minn.; $500,000; to manufacture and mine; C. E. Staats, E. Smith, Theodore Williams.

Bronx Granite Co., New York; $10,000, commencing with $1,000; to manufacture plumbers' supplies; F. H. E. Zimmerman, C. Zimmerman, Jr., New York; J. P. Powers, Elizabeth, N. J.

Contractors' Supply Co., New York; $10,000, commencing with $5,000; to make contractors' supplies; John C. F. Rugge, Wilson P. Marschbank, Edward M. Neary.

William Porter's Son Co., New York; $100,000, all paid in; to make fixtures for oil, gas and electricity; Annie M. Porter, W. H. Porter, N. F. Porter.

Memphis Terminal Co., Memphis, Tenn.; $50,000; to construct and operate railway terminal facilities; M. H. Smith, H.W. Bruce, C. Quarrier, S. H. Edgar, J. P. Houston, Memphis.

Pneumatic Crane Co., Pittsburg, Pa.; $5,000,000, commencing with $500; to manufacture and sell pneumatic machinery of all kinds, steam engines, air tools, etc.; Chas. S. Guthrie, Richard Hoffman, Jr., David H. McCosh, S. G. Cooper, and Wm. S. Halsey, all of Pittsburg.

Western Prospecting & Mining Co., New York; $100,000, commencing with $50; to do a general mining business in the Western States; David Jankover, Frank M. Kelly, Wm. R. Weeks, O. C. Kunze and W. Raymond Fry, all of New York city.

International Smoke & Vapor Condenser Co., Jersey City, N. J.; $5,000,000, commencing with $25,000; to manufacture and sell machinery for the consumption of smoke, gases, fumes, etc.; David Crear, Warren Collins, E. C. Selchow, Henry Varley, and E. A. Fairbanks, all of New York.

Santa Rosa Mining Co., New York; $300,000, commencing with $500; to do a general mining business in Ecuador; Ernest Atkinson, Albert Fairfax, F. M. Van Gelder, Edward T. Rice, Jr., and John French, all of New York.

Pneumatic Dispatch Mfg. Co., Philadelphia, Pa.; $1,000,000, commencing with $500; to manufacture and operate pneumatic tubes, receivers, etc.; J. E. Milholland, R. J. Fox, Geo. J. Murray and H. A. Lewis, of New York city; K. E. Stuart, Philadelphia.

Manhattan Dry-Dock & Construction Co., New York; $5,000,000, commencing with $100; to manufacture and sell all kinds of vessels, etc.; Chas. F. Peck, Jas. A. McDuffie, Wm. A. Davis, and Wm. H. Brower, of New York; Geo. H. Smith, East Orange, N. J.

Construction & Mfg. Co., New York; $5,000 all paid in; to manufacture carbon dioxide, etc.; C. E. Howland, East Orange, N. J.; S. V. Constant, N. Chandle, New York.

Sinclair & Morrison Co., Columbus, O.; $50,000; to manufacture oil and gas-well machinery; P. E. Spellacy, J. B. Kerr, D. J. Cable, W. L. Parmenter.

Taff Propulsion & Engine Co., 1 Montgomery St., Jersey City, N. J.; to do general manufacturing and trading business; Frank Taff, Oliver Taff, Maggie E. Taff, Whitestone (L. I.), N. Y.

Uvalde Asphalt Co., New York; $300,000, commencing with $500; to mine litteo carbon; A. Van Siclen, F. S. Brown, J. D. Marston, C. L. Spencer, C. J. Pitcher, all of New York.

Ambler Asbestos Air-Cell Covering Co., Ambler, Pa.; $25,000; to manufacture heat-saving and fireproof coverings; E. W. Phillips, H. V. Evershan, R. V. Mattison, Ambler; F. J. Gast, New York; G. R. Wallace, Fort Washington, Pa.

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Boston & New York Telephone & Telegraph Co., Boston, Mass.; $1,000,000; Zephaniah S. Holbrook, Cambridge, Mass.; Oakes Ames, Milton, Mass.; Frederick A. Spear and Charles E. Adams, Lowell, and J. Stewart Rusk, Boston.

Lorain Wheel Co., Lorain, O.; $100,000; to manufacture iron, steel and leather goods; H. H. Johnson, R. A. Wilbur, M. B. Johnson, F. S. Porter, A. B. Rust.

Pelton Engineering Co., Cleveland, O.; $10,000; to manufacture electrical and steam supplies; W. H. Pelton, H. Holding, C. H. Gale, J. H. Smart, J. E. Chinnock.

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Harris Safety Co., Jersey City, N. J.; $500,000; to manufacture fire escapes, etc.; George R. Parks, George E. Greene, Gilbert M. Furman, G. Tracy Rogers, Job S. Hedges, A. P. Campbell, Herbert J. Truesdell, John E. Berwind, Harry M. Marsh, John R. Rowlen, Jersey City.

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Portland Mining Co., Portland, Me.; $100,000, commencing with $300; real estate and mining; Judson H. Coffin, W. M. Ferris, W. H. Mills.

Copper Belle Mining Co., New York; $300,000, commencing with $2,500; general mining business in Arizona; B. Brummer, G. E. Crawford, J. B. Riley, A. J. Barnes, J. A. Brummer, New York.

Kelleher Steam Heating Co., New York; $10,000, commencing with $500; Geo. Lynn, J. H. Wellwood and M. H. Kelleher, New York.

North Arkansas Telephone Co., Fayetteville, Ark.; $25,000; Millard Berry, James W. Dupree, J. P. Dearer and Walter E. Berry.

Equitable Meter Co., Pittsburg, Pa.; $1,000; to manufacture meters, etc.; O. F. Felix, G. I. Holdship, J. H. White, Pittsburg; C. F. Holdship, Allegheny, Pa.

Richart-Sanderson Oil Co., Scranton, Pa.; $15,000; to manufacture lubricating oils; C. R. Sanderson, J. G. Sanderson, W. K. Richart, C. W. Thayer, E. W. Gearhart, G. W. Marshall, Jr., W. D. Todd, Scranton.

Henry County Telephone Co., New London, Ia.; $1,000; E. C. Stevenson.

Porto Rico Trading & Improvement Co., 1 Montgomery St., Jersey City, N. J.; $125,000; to acquire real estate in Porto Rico; Wm. D. Ives, Wm. H. Barlow, Marshall Van Winkle, Henry R. Ives, Jersey City.

New Magna Charta, New York; $5,000,000, commencing with $1,000; to carry on commercial business, manufacturing and mining business; King C. Gillette, W. B. Holloway, G. Herman Gillette, V. P. Gillette and George H. Gillette, all of New York.

Acme Acetylene Gas Co., New York; $500,000, commencing with $100; to manufacture and sell gas machines, etc.; William A. Newall, E. J. Fenlon, John Forman, George H. Graham, W. H. Graham, New York.

Northern Illinois Telephone Co., Hinckley, Ill.; $10,000; Fred. E. Graves, Milton D. Patten and Fred. B. Patten.

Citizens' Telephone Co., Berea, O.; $20,000; to operate a local telephone system; S. B. Rawson, J. A. Duke, F. W. Martin, T. M. Brush.

Pennsylvania Telegraph & Telephone Co., Beaver Falls, Pa.; $50,000; H. C. Patterson, H. H. Patterson, J. P. Stone, Beaver Falls; D. H. Stone, C. H. Stone, S. P. Stone, Beaver.

Tennessee Iron Ore Co., Nashville, Tenn.; $10,000; general mining; J. C. McLanahan, W. L. Granbery, W. K. Black, C. C. Trabue, W. R. Cole, Nashville.

Mail Delivery Notice.

Special efforts are made to deliver our paper to its readers each week at the earliest possible moment. The largest binding and mailing establishment in New York begins work on Engineering News early each Wednesday evening, and all papers for Boston, Philadelphia and Washington are usually in the New York post-office by midnight; all Brooklyn and New York city papers by 3 o'clock—in ample time for the first delivery Thursday morning. The entire edition, including foreign copies, is in the mail soon after 6 o'clock Thursday morning. If your paper is not received promptly we advise that you make a complaint to your local post-office officials.

"THE BEST YET."

Newport, Ky., March 23, 1898.

Engineering News Publishing Co.,

New York.

Gentlemen: I wish to acknowledge what we believe to be largely due to advertising in your journal: having an unprecedentedly large number of calls for proposals and a large number of bids, resulting in the cheapest street we have ever had put in. The cost per square yard for brick paving filled with asphalt filler on 6 ins. concrete foundation, and including excavation, is $1.17. I think this is a record on cheap paving.

Yours very truly,

W. L. Glazier, City Engineer.

The Circulation of ENGINEERING NEWS among Prominent Contractors Probably EXCEEDS that of any other FIVE PAPERS.

ADVERTISE YOUR WORK IN ENGINEERING NEWS.

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MR. CHAS. H. EDWARDS, formerly a junior partner in the firm of Jos. Edwards & Co., 414 Water St., New York, manufacturers of hydraulic dredging machinery, pumps, etc., has opened an office as a manufacturer's agent at 39 and 41 Cortlandt St., in that city, and will handle bolts, screws, belting, shafting, iron and steel, castings and forgings, steam engines and boilers, etc.

THE PITTSBURG REDUCTION CO., Pittsburg, is reported to have an order for 180 miles of aluminum wire for the Standard Electric Co., San Francisco, Cal., which is building a power plant in the Cascade Mountains. It is said that the wire will weigh about 240,000 lbs. and will cost about $60,000. The company also has an order from Belgium, according to press reports, for 1,540,000 lbs. of aluminum for use in making military equipments.

THE AULTMAN & TAYLOR MACHINERY CO. Mansfield, O., manufacturers of the Cahall water tube boiler, has opened an office in Havana, Cuba, in charge of Mr. Manuel J. Martinez, M. Am. Soc. M. E., as Resident Agent. A special effort will be made to introduce the vertical type of Cahall boiler into the sugar industry of Cuba and Porto Rico. The business will be carried on under the name of M. J. Martinez, Consulting and Contracting Engineer.

THE VULCAN IRON WORKS CO., Toledo, O., recently received an order for a "Giant B" 70-ton steam shovel from the Grangesberg Stock Mining Co., Grangesberg, Sweden, for use in mining surface iron ore. The latter company recently sent a committee of four to this country to investigate American methods of cheap mining, especially in the Massaba country, near Duluth, Minn., where ore is being taken out at not more than 1½ cents a gross ton, it is stated, the cost in Sweden heretofore being from 20 to 25 cts. a ton to get the ore on cars.

F. L. SMIDTH & CO., 66 Maiden Lane, New York, announce that they have instituted suit against the Booneville Cement Co., of Siegfried's Bridge, Pa., for infringement of U.S. Patent No 548,11 [illegible] has become known as the [illegible] fringers will be similarly dealt [illegible] —The firm has the contract [illegible] mill and the Davidsen pate[illegible] pulverizing the clinker, for th[illegible] Cement Co., at Siegfried's Br[illegible] daily capacity of 1,200 bbls.

THE GENERAL ELECTRI[illegible] has decided to widen the scop[illegible] in view of the importance w[illegible] quisitions and our improv[illegible] countries will give to our c[illegible] field of electrical developme[illegible] pointed Mr. W. J. Clark to t[illegible] ager of this department, with [illegible] and Mr. D. Mazenet, who ha[illegible] past five years, has been app[illegible] the Mexican General Electri[illegible] the City of Mexico.

THE BABCOCK & WILCOX [illegible] it has an order from Westingh[illegible] what is said to be the largest [illegible] placed. The order is for 60 B[illegible] type boilers of 520 HP. each, [illegible] lbs. steam pressure and to sup[illegible] densing engines of a nominal [illegible] boilers are for the power pl[illegible] Electric Co. has contracted t[illegible] R. R. Co. at 218th St. and th[illegible] be constructed by Westinghou[illegible]

THE AMERICAN STEEL [illegible] sey, is the name of a new cor[illegible] by the consolidation of the [illegible] Wire Co., Washburn & Moen [illegible] and Waukegan, Ill.; Worce[illegible] Mass.; Cleveland Rolling Mi[illegible] castle Wire Nail Co., Newcast[illegible] Pittsburg; Cincinnati Barbed-[illegible] Laidlaw Bale & Tie Co., Jo[illegible] Mo.; Consolidated Barb-Wire [illegible] Joliet, Ill.; Newburg Wire & [illegible] Oliver & Snyder Steel Co. and [illegible] and several other companies. [illegible] ized at $90,000,000, of which [illegible] and $50,000,000 common stock [illegible] erly President of the Illinois [illegible] President of the new compan[illegible]

THE INTERNATIONAL A[illegible] way, New York, is reported [illegible] tions for the purchase of th[illegible] Works, Providence, R. I., wh[illegible] facture appliances for the N[illegible] New York, the incorporation of which was noted under Industrial Notes in our last issue. The Rhode Island Locomotive Works will continue to build steam locomotives, it is said, and in addition, compressed air locomotives for suburban railways, now run by steam, will also be manufactured. The first named company has also absorbed the American Wheelock Engine Co., Worcester, Mass., which has an order for 250 auto-trucks to cost $500,000, for the New York Auto-Truck Co. The foundry work now done in Worcester will be transferred to Providence, and about 1,200 men will be employed. Among those said to be interested are Mr. Jos. H. Hoadley, of New York, acting for Mr. Joseph Leiter, of Chicago; the Rothschilds, of England; the Cramps, of Philadelphia, and others.

THE LINK-BELT MACHINERY CO., Chicago, during the year 1898, ran its plant day and night for seven months, and full time for the balance. Among contracts filled were the following: Producers' Cotton Oil Co., Yazoo City, Mich., complete power transmission machinery, link-belt elevators (2), and conveyors; Hoosac "B" Elevator, Boston, grain elevator machinery; Chicago Virden Coal Co., Virden, Ill., 100-K-W. dynamo, engine, switchboard, and 8 link-belt chain, breast mining machines; McCormick Harvesting Machine Co., Chicago, sand handling conveyors for its foundry; Tuscaloosa Wadding Co., Tuscaloosa, Ala., wadding elevator; Colorado Fuel & Iron Co., Sopris, Colo., large coal conveyor, used in connection with its coal washer; Stineman Coal & Coke Co., South Fork, Pa., engine, 100-K-W. dynamo, switchboard, and 10-ton 80-HP. locomotive; Mandell Bros., Chicago, merchandise elevator, extending eight floors; National Malleable Castings Co., Chicago, sand handling conveyors; Clearfield Coal Co., Tyler, Pa., 150-K-W. dynamo, two 60-HP. locomotives, switchboard, and three low link-belt mining machines; Albert Schwill Malting Co., Chicago, coal handling conveyors for storage room and boilers; Chicago City Ry. Co., Chicago, coal elevator; Summit Coal Co., Linton, Ind., boiler, engine, 100-K-W. multipolar dynamo, switchboard, and a link-belt mining machine; Coxe Bros & Co., Chicago, electric coal scrapers; Consolidated Coal Co., St. Louis, Mo., 100-K-W. dynamo, switchboard and 10-ton 26-in. gage locomotive; Northwestern Gas & Coke Co., Chicago, complete system of hog-conveyors; University of Illinois, Champaign, Ill., coal and ashes handling machinery; Patton Coal Co., Patton, Pa., 100-K-W. dynamo, engine and ten link-belt mining machines; Julius Knack, Detroit, Mich., retail coal pocket conveyors; Morrisdale Coal Co., Morrisdale Mines, Pa., engine, 100-K-W. dynamo, 10-ton 80-HP. locomotive; American Glucose Sugar Refining Co., Waukegan, Ill., charcoal filters; Chase Elevator Co., Chicago, machinery for Chicago & Grand Trunk Ry. grain elevator at Elsdon Station; Wisconsin Grass Twine Co., St. Paul, Minn., conveyor for handling hay; Deering Harvester Co., Chicago, sand elevator; Frankfort Chair Co., Joliet, Ill., rope drive, and Paterson & Busby, Memphis, Tenn., log haul.

NEW COMPANIES.—North Shore Transportation Co., Boston, Mass.; $50,000; commencing with $1,000; to run a line of passenger steamships between Boston and the Merrimac River; Wm. M. Stewart, J. M. Walker, J. M. Wales, A. C. Stewart, and A. R. Torrey, all of Boston.

Champion Mfg. Co., Rocky Hill, Conn.; $5,000, commencing with $1,000; to manufacture goods of metal, wood, leather, etc.; F. C. Warner, F. E. Holmes, Rocky Hill; M. S. Tracy, Glastonbury, Conn.; H. J. Cuthbert, New York.

Perry Electric Co., Peoria, Ill.; $2,500; to make an electrical signal telephone; N. U. Perry, R. E. Seymour, D. R. Chapman.

United States Blue Print Paper Co., Chicago, Ill.; $2,500; to manufacture sensitized paper, inks, etc.; A. Cottell, D. F. Matchett, M. C. Allen.

Rhode Island Copper Co., Houghton, Mich.; $2,500,000, commencing with $800,000; Thomas F. Mason, T. H. Mason, New York; Chas. J. Devereaux, T. H. Meserve, John W. Weeks, Boston; W. R. Todd, Morristown, N. J.; S. B. Harris, Hancock, Mich.

B. H. & P. Mfg. Co., Minneapolis, Minn.; $500,000; to manufacture and mine; C. E. Staats, E. Smith, Theodore Williams.

Bronx Granite Co., New York; $10,000, commencing with $1,000; to manufacture plumbers' supplies; F. H. E. Zimmerman, C. Zimmerman, Jr., New York; J. P. Powers, Elizabeth, N. J.

Contractors' Supply Co., New York; $10,000, commenc-

TYPE CUT-OFF

Ambler Asbestos Air-Cell Covering Co., Ambler, Pa.; $25,000; to manufacture heat-saving and fireproof coverings; E. W. Phillips, H. V. Eversham, R. V. Mattison, Ambler; F. J. Gast, New York; G. R. Wallace, Fort Washington, Pa.

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